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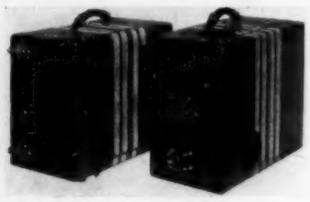

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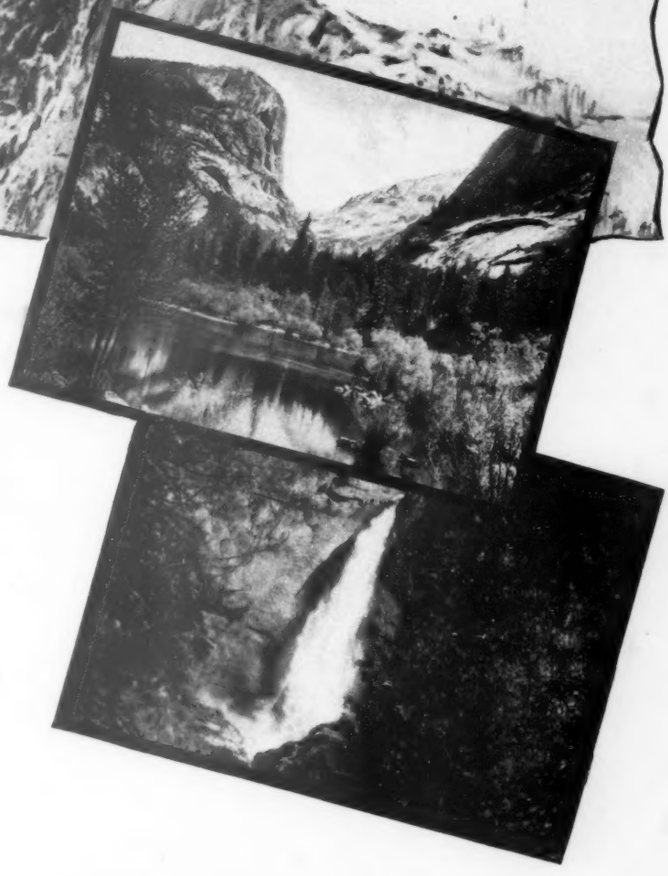

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Educating for Patriotism

The school-journey used under exceptional conditions and producing exceptionally interesting results.

MURIEL POST
Girard College, Philadelphia

IN times like these, when there is such confusion in the world, much of the finest of tradition and the glamour of the past are often overlooked. Now and again our thoughts turn to our own country, and to the traditions and institutions which have made it the America we love. It is because of this that those of us interested in childhood education, are brought face to face with the problem of providing the experiences necessary for an adequate appreciation of the heritage which is the birthright of every American, and the foundation of our democracy.

Dare we leave such experiences to chance, as has been done so much of recent years? Or shall we make provision for patriotic experiences in our curriculum? In Girard College the latter plan is followed, and one of the means to this end is the school excursion.

It was on one such occasion that excitement reigned supreme! Happy faces, eager voices, "Sunday suits", all showed that something unusual was in the air for the 4B boys. Joyfully they hurried to the big "double decker" parked just inside the gates. Calmly and politely—as though belying their excited air—they entered the bus and found places for themselves. For these boys, whose home is Girard College, an excursion off the campus is always a treat. No directions from those in authority seemed necessary, no last minute orders were issued by any of the three adults who were accompanying the ninety small boys about to embark on a tour of discovery—to see for themselves places of historic interest about which they have been reading and studying for the past several weeks. Let us follow them on their tour.

Boys and teachers are ready, the driver takes his seat, they are off. Quickly the bus reaches the head of the beautiful Benjamin Franklin Parkway. Eager eyes are busy scanning the horizon, looking for landmarks. For some boys it is the first excursion through this city of their adoption. Born in the smaller towns in the mountain sections of our state, many of them came to Philadelphia for the first time when they entered the College. For others, city boys, the drive has a new significance, as a result of the hours of research work and classroom activity.

"There it is!" Sharp eyes find the sparkling fountains at Logan Circle. "Just think!" says a brown eyed lad next to me, "William Penn himself had that park put there." And so the ride continues—around the City Hall, with eager eyes gazing up at the statue of the founder of this historic old city, and on down to Sixth and Chestnut Streets, where the first stop is made at Independence Hall.

When all have disembarked, one of the high spots of the trip has been reached. The boys enter through the Walnut Street door, and carefully touch the crack in the bell beloved by all Americans, then on to the Declaration Chamber. The whole group once inside, the guard is called in. He verifies for the boys the points of interest they have already noted for themselves. New information is obtained when he tells of many of the uses to which this famous room has been put in more recent years.

In the picture gallery to be found in the old banquet halls on the second floor there are two main attractions—one the painting by Benjamin West of Penn's Peace Treaty with the Indians, the other that of George Washington on his white horse. Both had been discussed before taking this trip, and are now studied eagerly.

Every building in the Independence Hall group has its own interest, and half a school day is none too long a time to accomplish all these boys have set out to do. Without delay, therefore, they visit the museums in the two wings of the main building, then move on to Congress Hall. Here, on the first floor, they enter the room where the lower house used to meet, and even walk across the very floor boards where Washington himself was wont to step. The curios on the second floor fascinate the children far more than does the Senate Chamber, where Washington was inaugurated for his second term.

Back in the bus, we proceed down Chestnut and up Fifth. "Do you see the red brick wall?" The question is on every tongue. "There it is!" And sure enough, the bus slows down. Around the corner, and through an opening in the wall, the boys see the graves of Benjamin Franklin and his wife. Traffic is heavy, so we pause for only a moment before continuing along Arch Street to Second. Another high spot! For here we are at the legendary birthplace of the flag. Again all leave the bus, and are shown through the Betsy Ross House by the very capable guide who is stationed there.

A short walk around the corner brings us to Christ Church. Voices are hushed. Quiet children walk down the aisles, and reverently stop, perhaps where Washington sat, or Benjamin Franklin, or at the tiny pew where Betsy Ross was accustomed to worship. Another thrill for the boys, as they realize the historic ground they are treading!

A longer ride takes us to the oldest Church in this part of the world—Gloria Dei, or Old Swedes'. Here the genial rector greets us, and as eager boys are seated at the front of the Church, he tells them

stories of the early people who planned and built the edifice. This is our last stop. A half hour's drive brings us back again to our own welcoming gates. As the boys go back to their dormitories, a word of thanks is whispered to Stephen Girard, the kindly benefactor who made possible this red letter day.

But what significance has the afternoon's excursion? Is it just a break in the ordinary routine life? Or has it some deeper meaning? Is it an end in itself? Or can it claim, rather to be a means to a great many ends? Let us examine it and see.

For three weeks the 4B boys had been studying local history. Classroom, reference library, art department and shop had been scenes of intensive activity. Near the end of October an article had appeared in a local newspaper. This mentioned the celebration at New Castle in honor of William Penn's arrival. That William Penn had stopped elsewhere before arriving in Philadelphia was news to the 4B boys. Research therefore began in earnest. This brought out the wealth of historic interest our city has for every American. "I wish we could go to see the Liberty Bell." That and other similar wishes seemed to be the general desire.

Possibilities and plans were discussed, a request was written and sent to the office for approval. When this was accomplished, definite plans were formulated. The date was selected, and the itinerary decided. Since it would be impossible in the three hours allowed for such an excursion to visit every place which had been discussed, a map of the city was secured, and plans narrowed down to include only certain buildings within a convenient radius. The places already mentioned were the ones selected.

Meanwhile, class work continued with a will. The head of the art department was called in to give an illustrated talk on Ferris pictures, which show scenes from the early history of Philadelphia. One group of boys made a bead belt, copied from Penn's famous one of wampum. Another group hunted up some pictures of the Welcome—Penn's ship—and with the help of the manual arts department, made a fine model of it. Still another group found pictures of early cabins, and—again helped in the shops—put up a model of such a setler's home.

Maps were made, both of "Penn's green country town" and of his city as it stands today. Pictures forming a frieze depicting scenes from early Philadelphia, were drawn and colored for the classroom. Stories of famous Philadelphia were written and told in class. Careful study was made of contemporary costume, and large models were developed and painted, showing the fancy dress of both men and women, as well as the Quaker garb. Small wonder that interest in the proposed trip ran high!

So far the part of the teacher had been that of adviser. She had encouraged the interest aroused, and had assisted with the research work in the classroom, as the librarian was assisting in the reference library. She also worked with the various groups in planning and carrying out their activities. In planning for the excursion, however, the teacher had a very definite part. If such a trip is to run smoothly, a preliminary visit is an absolute necessity. If the greatest value is to be realized, too much should not be attempted at one time. The wise teacher, therefore, will check this carefully, and will aid the children in making a selection from the wealth of material at their disposal.

Pupils Studying and

Making Ship Model

Frequently, when public buildings are visited, it is possible to secure the services of a guide. Often, however, it is far better for the teacher herself to act in this capacity. Very often the information given by these public guides is too mature for elementary school children. All this can be ascertained on the preliminary visit. Means and routes of transportation should be inspected, and checked at all points to insure the safety of the pupils.

A preview of the trip, given after such preparation, and followed by class discussion, showed the need for establishing certain standards of conduct, as well as for safety. Thus it was that we found an orderly group of young gentlemen embarking on the bus, and visiting the several buildings. Equipped with standards of conduct of their own making, and armed with intelligent questions, it was not strange that all along the route people should say to those in charge, "What a fine group of boys! Girard College should be proud of them."

Girard is proud of her boys, and the boys are proud of the College which is to them both home and school. Proud, too, they are of their fine city, and its wealth of historic background, and glad that they are Americans.

In order that the trip might be of the greatest possible benefit to all, opportunity was given to share any information obtained. Certain immediate outcomes of such an excursion may be listed as follows: (1) Reports (Oral or written) (Discussion). (2) Dramatization. (3) Art work. (4) Note books. (5) Exhibition. (6) Assembly program (This may include all above). (7) Letter writing (Note of thanks, etc.).

In addition to these outcomes, there are certain ultimate ends which may be attained. These are to be seen in the attitudes fostered and the social habits whose development is aided. (1) Following directions. (2) Consideration of others. (3) Observation of interesting details. (4) Appreciation of the worth while in History, Art, Tradition. (5) Ability to work together. (6) Desire to share information. (7) Realization of the need for certain desirable standards of conduct in a well organized community.

In accomplishing these ends, such an excursion is indeed, not just an end in itself, but a means to a great many ends.

Jack Finds A Way

A fully detailed account of one school's venture into film-production that should encourage others to go and do likewise.

CLYDE K. MILLER
Director of Visual Education
Public Schools, Dover, Ohio

"JACK FINDS A WAY" is the title of a motion picture which was made by the Dover, Ohio, High School. Significantly, not only Jack but the Dover High School, too, did quite a bit of way-finding into the production of films since this was our first school-produced motion picture.

The project was part of an experiment by the Bureau of Educational Research at Ohio State University and the Highway Education Board of Washington, D. C., to determine whether schools can produce educational films of good quality. The incentive for this project can be traced back a few years when a group of Ohio State University students in a Visual Education class reviewed all of the commercial safety productions which were available. It was their judgment that very few of the films had much value in terms of bringing about safe conduct and that schools themselves should be able to treat the topic more successfully by dealing with specific local needs.

The problem faced in the project was obviously not one of merely encouraging the production of more school-made films. Surveys show that several hundred such movies have already been made. It is evident, from a viewing of the schools' product, however, that very few such films are either carefully planned or well photographed. This situation is not difficult to understand. It is quite apparent that the average teacher-photographer has little knowledge of film production techniques nor has he any easily available means of improving his photographic skill. Conferences, summer classes, and magazine articles have undoubtedly done their share to improve the school-made film. In this project, however, not only was literature made available and discussion of filming problems made possible, but clinics were held where the participating group of teachers met with experts, discussed their filming problems as they arose, and actually took part in film production. In addition, the staff of the Bureau of Educational Research was made available for consultation on individual problems.

Dover High School was one of ten schools, eight in Ohio and two in West Virginia which undertook with the help of the Bureau to produce a motion picture in the field of traffic safety. On account of the widespread interest which developed immediately throughout the Dover High School it was decided to make the film an entire school project, everyone who desired to assist. Three school groups which were particularly interested in the project began work immediately. The Visual Aids Operators Club, the school group responsible for handling upkeep and operation of all of the school's visual education equipment; the Photography Club, responsible for the school's unusual dark room setup embracing all students in the school interested in photography; the safety patrol, an AAA-sponsored group of students who were responsible for patroling the streets near the school; all cooperated in the production of the picture.

The first step was the choice of the area in which the film was to be made. A survey was made of school and city officials, teachers, students, and parents to determine the particular safety subject which was of most vital interest to Dover High School. As the result the topic of bicycle riding could (1) bring about an awareness on the part of pupils of deficiencies in their safety behavior, and (2) provide practice in techniques for eliminating these errors.

Another survey revealed that 90 per cent of the school's bicycle riders were in the seventh, eighth, ninth, and tenth grades. Students in these grades were asked to list the mistakes made by bicycle riders. Errors in riding bicycles listed most frequently by students were:

1. Riding two or more on a bicycle.
2. Riding in center of street.

3. Racing on busy street.
4. Not stopping for street light or stop sign.
5. Riding two or more abreast.
6. Hanging on a truck or car.
7. Not paying attention to riding.
8. Zig zaging.
9. Daring the motorist by acting smart.
10. Cutting out in front of traffic.

A literature class worked the list into a rough draft of a scenario which a committee of faculty members polished into a final shooting script, broken down into scenes and shots with detailed descriptions of each portion of the action. After the script had been completed, a copy was sent to the Bureau of Educational Research at Ohio State University for their suggestions and approval before "shooting" began.

But before "shooting" could begin, arrangements for work at various locations had to be made. In order to avoid any possible future misunderstanding, the "stars" and "extras" alike were asked to sign a card giving the school permission to use them in the film and to use the resulting pictures freely and without restriction. Two student property men arranged for all small properties as well as large ones, such as trucks, ambulances, and even a large city fire engine. They also made arrangements for the special scenes to be shot at the City Hospital and in the mayor's office.

Scenes were not shot in sequence but in the order most convenient. We tried, whenever possible, to finish up at one time all action taking place at one location. This could not always be done, however. In addition, there was the problem of retakes. Both retakes and continued filming at a particular location required that all properties and costumes be duplicated exactly in subsequent shots.

The making of a large number of documentary still pictures helped to assure this accuracy. When retakes are necessary, the photographs would be consulted to reconstruct the scene exactly as it had been before. And although in amateur work the "rushes" of a day's shooting could not be made, the still pictures could be processed in the evening and be ready the next morning to give an idea of the action in the previous day's shooting. In addition to the documentary pictures of a scene, a careful day-to-day record was kept of costumes. In one case where it was necessary to use a bandage to indicate an accident, the bandage had to be checked each time for location and appearance. A broken right arm suddenly shifting to the left side would have been embarrassing, indeed!

Filming was done during school hours, making it necessary for special arrangements with the Attendance Office to excuse all students needed. An attendance boy kept a record of the "actors" needed and saw to it that the necessary persons were on hand for each scene. He was an important part of the production crew, working as a go-between for the faculty directors and Attendance Record Office. Actual camera work was done by a student crew. The writer, who is the director of the school's visual education department, was produc-

(*Continued on page* 130)

Top: Measuring focal distance.

Center: Recording a scene.

Bottom: "Shooting" the scene.

The School's Film Production Crew at Work

The Sound Film: A Challenge to Language Teachers

J. R. PALOMO

Department of Romance Languages
Ohio State University, Columbus

A terse discussion of the kind of sound films needed for achieving best results in the teaching of foreign languages.

FOR more than a decade now our students have been hearing radio broadcasts in foreign languages. Faster and cheaper transportation facilities have made it possible for more people to visit foreign countries. Students are demanding to be taught to speak the foreign tongue, or at least to understand it when they hear it. Especially is this true of Spanish. The present unrest in the Old World has turned, and the Good Neighbor policy of our Federal Government has focused the attention of our people upon Latin America.

The teaching of foreign languages cannot be justified solely on the grounds that such effort furnishes mental discipline and, incidentally, an appreciation of foreign cultures. Until now this effort has been based almost entirely upon the mastery of the printed word. It is time that we language teachers re-examine our methods and our objectives, or rather the objectives of our students. The exigencies of our times point to this necessity. We as teachers must try to meet the new demands upon our profession if we wish to keep in step with the times.

The tool which bears the greatest potentialities for teaching foreign languages is the sound film. Its possibilities in our field have not been explored to any great degree, although the sound film intended as an aid in foreign language instruction is here with us. The degree of its usefulness in our work will depend upon its suitability to our needs. It is for us teachers, who know the nature of these needs, to get together and determine what type and manner of films may be best suited for our purpose. It hardly needs be said that the educational film companies will be glad to hear what we have to say and, convinced of a market, they will be quick to supply it.

There are various types of language films now available. The film intended solely for entertainment does not altogether suit our purpose, primarily because its language is not geared to teaching needs. The travelog is not much better even though sometimes there is an attempt to control vocabulary. Moreover, travelogs aim to give, in a single reel, a wide variety of impressions of the foreign country, which necessitates the use of a broad vocabulary by the commentator and this very fact handicaps them as a medium for teaching language. Then, too, this accompanying monolog is often delivered too fast for the comprehension of beginning students.

Many travelogs are largely scenics, intended to satisfy the general public's curiosity regarding foreign lands, and they try to give so wide a sampling of a country's attractions that they lack cohesion and therefore are certain to prove boring to students who would have to experience several projections in order to benefit by the repetitions of the language sounds. Narration, especially when people are shown in the picture, is unnatural and lacks the dramatic quality of normal conversation. Also, since the language the student hears does not emanate naturally from what he sees in the film, there is not evoked in his mind the unified impression of scene and sound, and his mental effort is divided between the picture and the words of the invisible speaker. This division of his attention also tends to lessen his interest. Again, the projection time of most entertainment films averages eighty minutes, travelogs about twenty-five minutes. This is too long to permit of repetition within the usual class period.

The above evaluation suggests that, from the linguistic standpoint, the travelog and entertainment films have many inadequacies. This is not a denial of their value as purveyors of cultural information which is quite adequately absorbed by the student through his visual faculties. It is apparent, then, that much remains to be done to develop sound films which will meet the needs of the students of foreign languages. This is a challenge to us who teach languages to participate in the development of what can be made a powerful and useful tool for our profession.

It seems to me that in order to have the right kind of language films we must first prepare a series of lessons dealing with the everyday aspects of life in the foreign country. The first few lessons should employ conversation chiefly. Description should be added gradually and should be of such nature that it can be introduced with great naturalness by the interlocutors. It is essential that the vocabulary of these lessons should be controlled in both range and density. The contents of these lessons are then to be filmed, and the textbook and film together will form the basis of classroom work.

Having prepared the lessons to meet classroom requirements we must now consider the filming of the content. As has been stated above we must first have conversation instead of narration. This means that our language films must present people in meaningful situations against a native cultural

(*Continued on page* 126)

MOTION PICTURES—NOT FOR THEATRES

The 25th installment recalls the pioneer work of fifteen or more years ago to explore advantages and set up a practical control of motion pictures in the school.

By **ARTHUR EDWIN KROWS**

A COMMITTEE appointed in 1925 by the Swiss Student Federation at Basel, to study the future of school films and to find expedient ways of realizing it, was also to lead to the League of Nations. So was the Belgian group, Les Amis du Cinéma Educatif et Instructif, formed late in 1926 at Brussels.

It should be clear, of course, that there is no attempt in these pages to present the European non-theatrical story. What it is hoped that these foreign references will accomplish is to orientate the various leading national developments, and to refute chauvinistic notions that non-theatrical films are an exclusively American property. Many lesser evidences of progress overseas, such as the school experiments in Sweden and the adoption of films in the schools of Hungary, have not been touched upon at all, and, when the larger history is told upwards of a century hence, it may be that those will appear as more significant than anything accomplished educationally in the United States.

The Educators Have Ideas

It was very evident, in the early nineteen-twenties, that nobody knew much about visual education. But it was also evident, even in the absence of reliable tests, that that large part of it which embraced motion pictures was worthy of development. The film producer, confident in his mechanical mastery of his machine, and possessing effective experience with theatrical audiences, thought that he knew also what the pupils ought to have, but he himself had to learn that school spectators do not view the screen with the same mental attitude which characterizes those on amusement bent. And the teachers, while aware that these two audiences were different, could not yet tell precisely why, and had the further disadvantage of not knowing how to handle film.

Those educators, who ranked as recent pioneers in the visual education movement, were at pains to be articulate about the problem. They studied immediate symptoms and delivered shrewd hypotheses to their teaching colleagues by means of addresses at educational conventions and articles in professional magazines. In many instances the chief concern was to ticket the symptoms with names. This was natural enough, and was to be expected in any new development, but it was dangerous, too, for, while it is right and necessary to apply and define terms, terms imply pigeonholes, and pigeonholes encourage didactic thinking and that delusion which mistakes an acquaintance with names for actual knowledge.

Frank N. Freeman, A. G. Balcom, F. Dean McClusky, Ernest L. Crandall and Joseph J. Weber were among the educators who rendered practical and thoughtful service here with miscellaneous writings in which theories were well mixed with facts. One of their major points, which was not heeded by producers at large but which should have commanded their sharp attention, was that presentation is not identical with learning. The simple fact of placing a mass of information on the screen before a class, does not by any means make certain that the pupils will therefore absorb it. A receptive attitude must be built up previously in the learner, and the information must be so presented that it is correspondingly understandable.

Edouard Herriot, as French Minister of Education, favored school films. In 1926 he established a commission to study the matter in headquarters at the Pedagogical Museum in Paris.

Here are unmistakable clues to the respective functions of teacher and producer, and, indeed, to a full working philosophy on the entire subject. Speaking of which recalls the important articles by George S. Painter, professor of philosophy at the New York State College for Teachers, starting in *American Education* for December, 1925, entitled "The Psychological Background of Visual Instruction." In that place was enunciated, clearly and distinctly, the caution that mere perception is not learning, either.

"Knowledge does not pass ready-made into the mind," said Professor Painter there. "To observe is not merely to have sensations and feelings; it is also to put things together and to interpret them and appreciate to some extent what the sensations mean. Simply to stare at things does not give us knowledge of them; unless the mind reacts, judges, thinks, we are no whit wiser for our staring." Which should have been sufficient answer to the objection of many teachers that motion pictures could only induce laziness in pupils by making it easier to absorb information, and therefore could be of small value in stimulating thought, forming sound habits and inciting to useful action, which, I understand, are among the main purposes of education.

It should be remarked in passing that others had thought along the same line as Painter. None had put it clearer or more pungently than Matilda Castro in *Educational Screen*, in the spring of 1922, when she observed that, "Pictures are focal points in the psychological approach, but are not substitutes for explanation or the imagination."

These facts were only those which applied with equal force to the school textbook, and, by the same token, they had been amply tested and fully accepted. What had to be worked out pedagogically about films was, first, what the medium of the screen could do better than any previously utilized teaching instrument, and next, how specific pictures might be made to serve efficiently within those limits—in short, to explore their advantages and to establish their control. But the ensuing tests were not all made in realization of this. Many of the little people, who approached the matter on their own small initiatives, did so to show how smart they were by "proving" that textbooks were obsolete. Others would screen any ordinary picture which came to hand, in a classroom, without preparation, as they might give a mirror tentatively to a monkey, to see what happened and with no precise expectation of what the result might be.

How simple such alleged "tests" might be is well illustrated by the much-publicized "experiment" conducted in March 1922, by the Chicago Board of Education to determine what sorts of picture should supplant the lurid movies commonly held to be juvenile favorites. A free program of supposedly educational subjects was screened successively for four audiences of about 4,500 children each, the expectation being that much could be learned *by measuring their applause*. A geographic lesson on Egypt fared poorly, and so did scenes of a royal wedding, but a slapstick comedy reel, and a shot of a turtle withdrawing its head were uproariously received. And the whole conclusion seems to have been merely that it was all "confusing."

What were referred to as "school tests" of films in the early years, were generally mere screenings of odd theatrical subjects where motion pictures had not been used before. They were expected to provide only an "enrichment" of the educational yield, and the circum-

stances were not "controlled" in any sense which would have been acceptable after the start of the visual education movement. This, of course, was only because educators at large were not previously familiar with even the machinery of exhibition. As scientific procedures such explorations left much to be desired, but, considering the primitive state of that division of the field then, even the simplest demonstrations were significant. In that light, such pioneer efforts as the school "tests" of the Brooklyn Teachers' Association in the autumn of 1912, when the pictures exhibited to classes included "Hiawatha", "Wonders of Plant Life", "The Animal Kingdom" and "Chemical Action in Aluminum", are to be recalled with honor.

Joseph J. Weber's doctor's thesis at Columbia University in 1922, essayed to establish the relative effectiveness of the motion picture in comparison with the other tools of education. Frank N. Freeman, in *Visual Education* in 1923, made a searching classification of types of educational films; others tested the motion picture's economy of time. These were useful investigations. Plenty more were not. Some were rather silly. But then, concerted movements of any worthwhile kind always have their lunatic fringes.

The scientific mind proceeded from the known into the unknown carefully, but did not hesitate to borrow clues from other fields. The film was new in the school but not so new in the theatres. There was a large amount of material out of which a careful observer might build hypotheses. "If such-and-such is done," he could say, "thus-and-so probably will happen. Let us try and see." Thus the scientist established his goals in advance and always knew what he was trying to find out, the ultimate result showing him merely whether he was or was not correct in his original assumption. Nor were these goals haphazard, but they built steadily atop one another to larger goals which ultimately would show the entire place and function of motion pictures in visual education.

In 1915 had come an authoritative, highly original attention to the subject of what motion pictures might do to affect the human mind, which should have provided educators with many valuable clues to proper procedure. No doubt they would have, had times and personalities been different, for Hugo Münsterberg, brilliant professor of psychology at Harvard, was a German, and the World War was then rapidly drawing America into it. Theodore Roosevelt publicly denounced him for "hyphenated" activities. Lesser objections were that he was a "sensationalist," and strongly "commercial" for assisting large corporations in their work of industrial research. But it was in 1915 that Münsterberg, his imagination caught by the camera magic of Annette Kellerman's mermaid picture, "Neptune's Daughter" had begun his ingenious investigation of the films. He spent the summer of that year in close attendance at the theatres and in visiting the major studios, then situated in the East, and in December, 1915, the *Cosmopolitan Magazine* published his first

Hugo Munsterberg of Harvard was one of the first to use the motion picture as a measuring instrument in studying vagaries of human behavior.

important articles on the subject, "Why We Go to the Movies."

When Paramount started "Pictographs," Münsterberg was invited to be one of the first contributors. He responded with a series on "testing the mind," designed to provoke the active participation of the audiences which might see it—and these pictures are still obtainable, I believe, in the Bray Library. He also undertook, but unhappily did not complete, experiments in the use of motion pictures for the teaching of history. Reports of this work brought him a heavy correspondence, and there is extant a letter, dated April 5, 1916, in which he replied to a Mr. Edwards, who I suppose to have been none other than F. R. Edwards, the ambitious educational film enthusiast of San Diego, commenting favorably upon the gentleman's plan to specialize in producing school pictures.

He heartily approved the Edwards proposal to present the Montessori system on the screen, hoped for much on geography because of glaring omissions in popular knowledge of that, and, holding that "the greatest trouble in the moving picture world today is the lack of discrimination and differentiation," remarked that: "In a few years such differentiation will be demanded everywhere, and one of the first steps toward it ought to be a clean division of labor among the producing companies. I welcome it as a very promising step that you intend to specialize in the educational field and to set this off as a great work of its own, separated from the mere amusement plays." But Münsterberg's enthusiasm for the films was destined soon to lose its force. December 16, 1916 he died.

Münsterberg's book, *The Photoplay: a Psychological Study*, published in 1916, will disappoint the student who seeks in its generalizing pages the proofs of the author's penetrating thought about educational films. Dossiers in the newspaper morgues will be much more informative about his widely varied experiments in making the screen serve as a new instrument to reveal the inner life of men, experiments in laboratories in courts of justice, in asylums. It is of no real consequence, and no reflection upon a splendid prophetic judgment, that in the same book he remarked that the addition of voice would ruin the artistic effect of motion pictures. Those were days when the film was loved for its silence; all he had done in that instance was to succumb briefly to the human belief in things-as-they-are.

It will be recalled, of course, that the start of the visual education movement stirred many persons in charge of motion picture activities in schools, or otherwise vitally interested, to observe critically the reactions of classroom audiences. And, to preserve their findings, there were articles published in newspapers and magazines on successful uses of the cinematograph in teaching English to foreigners in Washington; on the film teaching of geography, as the admirable one written by Edith P. Parker for *Visual Education*; and on motion pictures in physics classes, as that useful comment prepared for the same magazine by Harvey B. Lemon.

David Gibbs, superintendent of schools at Meriden, Conn., reported "An Experiment as to Economy of Time in Instruction by Use of Motion Pictures" in the pages of the *Educational Screen*; in the New York *Times* were described the reactions of school children when they saw themselves on the screen engaged in various projects; "Pathé News" coöperated with educators in tests for fourteen weeks at Junior High School No. 64, Manhattan, to see how films might be used in teaching current events, a study to be followed later by similar tests in the public schools of Newark and Boston. All of these are random illustrations of the strong desire in this period to reduce a powerful new educational force to law and order.

To conduct tests on a satisfactory basis required more time and effort than the usual schoolman himself could afford to give. To obtain the requisite funds for finding such unpredictable results was not easy. However, realizing that one could not ordinarily reach an objective without taking certain preliminary steps, Frank N. Freeman, of the University of Chicago, concentrated temporarily on those steps, and, in the spring of 1922, it was announced that the Commonwealth Fund of New York, an endowment established to assist research work in various lines, had granted him $10,000 for a twelvemonth effort to determine the value of motion pictures in child education.

Frank Nugent Freeman, Canadian born in 1880, early removed to the United States, and rose rapidly in his chosen field of psychology. His first services in this department of knowledge were at Yale, where he had received his Ph. D. in 1908, but in 1909 he became an instructor at the University of Chicago, gaining the professorship of educational psychology there in 1920. Many side endeavors, represented in committee memberships and editorial connections, added to the ready proofs that he was an excellent person to conduct this important survey. He was sharply alert to the existing facts of the

visual movement, and had an intimate acquaintance with the current work of Harley Clarke's Society for Visual Education, carried on, as most of it was, by his own colleagues at the University.

His clear idea of the needs was expressed in a formal statement which accompanied the announcement of the grant. He aimed, he said, to solve two main problems: first, what might be taught best by motion pictures, and, second, to find ways to improve the pictures themselves. "I am of the opinion," he declared, "that the film is not so far superior to other methods as to be substituted in a wholesale way, but that it has its definite field and is excellently adapted to certain things seems beyond doubt." He observed that some films, such as biological and nature study subjects, might be set apart, as "strictly educational," from those having entertainment values and therefore being in the nature of literature. Recognizing useful results to be obtained by presenting pictures of objects which the child had not previously seen, the giving of "vicarious experience" thereby, he showed at the same time a commendable caution, and was rather sure that motion pictures ultimately would not spread over the entire curriculum. And he saw needs to discover, in his survey, how much a child of given age and development could absorb from a film, how long a school film should be, how much should be explained by the picture captions and how much by the teacher. The conclusions reached by Professor Freeman, generally confirming his original hypotheses, were presented in 1924 in his book *Visual Education*, published by University of Chicago Press.

Newspapers were eager to anticipate Freeman's broad opinion, and, in February, 1924, just after he had edited his report on tests with school films in and around Chicago, they seized upon a garbled account of his speech at the latest N.E.A. Convention and made it appear that he had condemned educational pictures. He was quick to correct the story, proving readily enough that he actually had heartily approved school films, and had condemned only the exaggerated claims made on their behalf. Assisting Freeman in his Commonwealth survey, and collaborating on his report, were: F. D. and H. Y. McClusky, H. W. James, E. H. Reeder, A. P. Hollis, Caroline Hoefer, Edna Keith, E. C. Rolfe, Lena A. Shaw, D. E. Walker, Nina J. Beglinger and Jean A. Thomas.

New Resources

When Dr. Freeman spoke of improving the pictures themselves as a coördinated aim, he was also giving due conspicuousness to the fact that no tests could be final while the mechanical possibilities were still being developed. It was true that most of the materials for school films had long existed, but many important advantages were out of reach of educators for divers practical reasons. Besides that, there might come a day when the films would acquire also speech and a third dimension. Anything needful might happen. Already the wizards of the lens were taking photographs in darkness. And there was Dr. William Draper Harkins, professor of physical chemistry at the University of Chicago, who, in July, 1924, thrilled his colleagues by showing them films of atomic collisions.

In truth, the magic of the film was being made more accessible almost daily through the forces of industrial competition and the discovery of new uses, such as the start of their employment by engineers for simultaneous meter readings. A more extended new application was in the motion and time studies which had grown out of the pioneer experiments of Frederick W. Taylor. For years Taylor, known as "the father of efficiency systems in America," had been using the still camera to study manual operations in factories, and it was only a step further to apply motion pictures to the same end. Frank B. Gilbreth did it first in 1912. John Patterson employed Jam Handy to make some for him in the N.C.R. plant at Dayton about 1919. Others carried on the work of Taylor, especially Lillian

In 1922 the Commonwealth Fund gave Frank Nugent Freeman $10,000 that he might determine the actual worth of motion pictures in child education.

Moller Gilbreth and her husband, consulting engineers in scientific management.

For these needs C. P. Watson's Novagraph was usually and perhaps always a satisfactory answer, but really high speed cameras held interest in other scientific laboratories where the "eight-times-faster-than-normal" was insufficient. Clever mechanisms were being devised in those places to take upwards of a thousand pictures per second for slow projection and study. The subjects were movements of air waves, bullet trajectories, speed of chemical reactions, and so forth. The names of Dr. Richet and J. W. Legg, the latter of the Westinghouse Company, were outstanding among those of such inventors.

The underworld of the ocean, so dramatically opened to popular view by the Williamsons, attracted others, and one heard of films photographed with the Sisson deep sea diving machine, and of a new submarine camera developed by Dr. Paul Bartsch and Andrew Cramer, respectively curator of mollusks and instrument maker at the National Museum. New pioneers in aviation photography arose, none more remarkable than Lieutenant Frank W. Goddard, a flier in the Army Air Service, and Dr. S. M. Burka, an expert photographer who assisted him in devising means to take pictures of large areas secretly at night, through fog and from an altitude of more than 5,000 feet. The U. S. Navy, using airplanes in the summer of 1925, mapped about 40,000 square miles of Alaska, while soaring photographers, working for the U. S. and Illinois Geological Surveys, completed an aerial picture of the City of Chicago on a scale of two and one-quarter inches to the mile. Although these were still photographs, their making set many precedents for the improvement of cinematography on high.

Motion pictures in the air and generally in the field, where "traveling" or "follow" shots were especially necessary, were greatly improved by Carl Akeley's invention of a device for photographing wild animals. The well known sculpter and taxidermist here provided a camera recalling Étienne Marey's "photographic gun" of 1882, which was designed to register birds in flight and could literally be aimed at them and moved steadily in line with their progress. The Akeley camera remains today unexcelled for newsreel shots of athletic events.

About 1925 the public relations department of the New York Edison Company became interested in making an industrial film of New York City consisting largely of shots from the air, and engaged to produce it Hamilton Maxwell, an English aviator who had made some exceptionally beautiful still photographs of clouds. Maxwell supervised the work, much of which was done by A. B. Wetzell, a flying cameraman who was then well on his way to the reputation he has enjoyed since, of being an outstanding specialist in the line. The collection of views made on that occasion was excellent for the time and exceptionally complete as a presentation of Manhattan from the air.

Through the early twenties even the ordinary camera became conspicuous for its ability to do tricks. It was the result of a foreign influence. The technicians of Germany, in particular, were just beginning to discover the facility of the taking device, and they were covering deficiencies of story, acting and studio equipment with photographic stunts. Barring the notable work of such directors as F. W. Murnau and Ernst Lubitsch, most of the German effects were mere mechanical exercises which the American film studios had toyed with, too, in earlier years, and put aside in the certainty that they distracted the spectators from the story. As soon as the audience begins thinking of the camera, the experienced native producers had said, beware the breaking of the emotional spell of the play. With that decision made, they worked to make the camera inconspicuous. But now, with all the superficial appearance of important novelty—of "breaking the shackles of art"—here were the Germans (and presently the Russians), with freak angles, "zooms," "follow shots," distorting lenses, "*montages*."

(To be continued)

Proceedings of the Winter Meeting of the Department of Visual Instruction of the National Education Association

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The Challenge of the Unsolved Problems

A REPORT

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THE title selected for this report implies an attitude of mind—an attitude which I believe is absolutely essential to successful promotion of the improvement of classroom instruction through the use of visual aids. To cause such improvement is a stated objective of the Department of Visual Instruction, and if we are to realize the satisfactions that come from successful achievement, we must cultivate essential attitudes. We need the attitude of healthy dissatisfaction with the present status of our progress; we should attempt to isolate and analyze the problems that are obstacles to more rapid progress; and we should be eager and ready to dig in and work energetically to find the solutions for the problems that confront us. These are the attitudes that must be ours—individually and collectively—if we are to demonstrate the sincerity of our interests in the promotion of improved instruction through the use of visual aids.

If one reviews the progress that has been made in the use of visual materials in classroom instruction in the past five, ten, twenty, or thirty years there can be no question but that progress has been made. A greater variety of visual aids are being used than at any previous time. Schools are better equipped; there are more full time workers in the visual field; there are more visual courses offered to teachers; there are more film libraries; circulation curves are pointing upward; membership in this Department is increasing; there is more advertising of visual materials and equipment in educational journals; more articles about visual materials are being written. Advances have been made, but have they been made rapidly enough? Has the progress been commensurate with the values we know are inherent in the intelligent use of visual materials for instruction? My answer is "no" and I hope yours is too. There may be some reasons for being satisfied, but there are more reasons for being dissatisfied. There are problems to be solved, and for the most part, they are the same kind of problems that have been troubling for years.

A few months ago there was reprinted in the EDUCATIONAL SCREEN a cartoon that had first been published in 1926. It was a cartoon analysis of the problems in the field of visual instruction. Depicted was a vicious circle with a school board member pointing an accusing finger at the school superintendent, and a teacher pointing to the board member, and so on, around the circle which included a teacher, a salesman, the producer, and finally the visual expert. Each had an alibi for lack of progress.

A basic unsolved problem in 1926 and the basic unsolved problem today is *the lack of adequate financial support for a sound program of visual instruction in all our schools.* By adequate I mean a program that provides up-to-date equipment with which to use the visual materials that are available—projectors for lantern slides and film strip, projectors for motion pictures, cameras, and space for the filing and classification of flat pictures and three-dimensional materials. By adequate I mean a program that provides facilities for the use of visual materials—classrooms equipped with electric outlets, projection screens, and dark shades, and class schedules and school rules that permit field trips and excursions. I mean a program that provides for the regular borrowing, renting, and acquisition of visual aids—without complete reliance upon materials that are free. And such a program demands competent supervision and direction. These should be the minimum standards insisted upon by all those who are in charge of educational units whether they be individual schools, a city or county school system, or a statewide system of schools. There are but few instances in our total educational structure where such adequate financial support is being given. In too many schools and school systems no attention at all is given to the systematic use of visual materials. In many others, what attention is given is the result of the enthusiasm of individuals who are working against almost overwhelming odds of unconcern, smugness, and traditional instructional patterns. While at least one city recognizes sufficient values from visual instruction to appropriate an annual budget for new materials and equipment of one dollar per pupil, there are other cities boasting loudly about ther excellent schools, paying lip service to newer methods, and appropriating as little as two cents per pupil per year.

Lack of adequate financial support is, I believe, visual instruction's number one unsolved problem and it is a problem about which something can be done. There are facts enough to prove the values. More studies have been made than have been used. There are enough practical working situations to show what can be done when visual materials are used purposefully and intelligently. There are more good visual materials available than are being used. Technical advance has been tremendous and good equipment is available. The facts for visual instruction are available. The specific challenge is to get those facts across to education's officialdom that controls the budgets and directs the policies. That challenge can be answered by cooperative action.

Unsolved problem number two is *the lack of understanding and skill of teachers in the most effective use of available visual materials.* Any one who doubts that this is a problem is invited to visit a cross-section of teachers even in school systems that have highest reputations for their well organized visual programs. He will find all kinds of use made of excellent materials—from the use that is carefully timed, well planned, skillfully presented, and meaningfully related to other learning activities, to the use that is nothing more than gross misuse where they have a movie show. Misuse does not occur only with the more expensive visual materials. I have been in classrooms where the least expensive materials—flat pictures cut from used magazines—have accumulated at random in a desk drawer or are pinned up helter-skelter about the classroom. Teachers need fundamental understanding of the necessity for visual experience in the learning process and they need to acquire skill in the use of the materials available to them so that instruction will be more meaningful.

Most of *us* recognize this problem and are attempting to do something about it. I think, however, that too much of our effort has been expended in trying to deal with this problem too directly. We have tried to reach classroom teachers individually and for the most part we have relied too much upon the course in visual education. Other approaches are indicated, it seems to me, for the simple reason that there are so many teachers and so few of us. The specific challenge here is the need for enlisting our educational co-workers—these others who are also responsible for the improvement of instruction—the principals, supervisors, instructional directors, superintendents, and teachers college teachers. They must

believe as we do in the place and value of visual experience in learning and when they do our force will be increased a hundred-fold. We must recognize too that all teacher growth does not take place in formal courses. Teachers can and do learn in a great variety of ways from the daily contacts of their work—from magazine articles, helpful words from principals and supervisors, from the practices of their fellow teachers, and from conferences and meetings. A shifting emphasis should mark our approach to the problems of teacher training.

I would identify as our unsolved problem number three *our failure in setting up administrative systems that will get visual materials to the hands of ultimate consumers efficiently and effectively.* If visual materials are to serve their basic function in the learning process, they must be in the classroom ready for use when they are needed and they must remain there until they have served their purpose. Some schools are served in this way—those schools fortunate enough to have a staff member who will work tirelessly on the problem, and those schools in city systems with well organized visual services. I have said "work tirelessly" because the distributional system that has grown up is not a simple one, and the school must seek materials from a dozen different agencies if it is to have a well rounded visual program. Speaking of the film library services alone there is little evidence of cooperative planning to serve best instructional interests. Service areas are not well defined; territories are overlapping; service rates and procedures are not uniform; and few have assumed any responsibility in guiding teachers in the most effective use of the visual materials they distribute. I recognize that plausible explanations can be given for the conditions that exist. But the distributional problem will continue to be a real and important one to every sincere worker in the visual field until all schools have abundant and various materials available readily when they need them. The specific challenge here is to provide better visual service for more schools. We must improve our administrative and distributional machinery and focus upon the ultimate consumer. We must demonstrate through our practice that agencies set up to service the schools really are "service" agencies. Their success should be measured only in terms of how well they serve the educational needs of boys and girls.

As one attempts to identify these problems related to visual instruction, he is forcibly impressed with their interrelation. Adequate financial support may be a base problem, but its solution is somewhat dependent upon intelligent teacher use of materials provided. Teacher use is dependent upon availability of materials. Interrelated with all of these problems is the variety and kind of visual materials that are being produced. This suggests the fourth major unsolved problem of the visual field. *There has not yet been brought about a continuous flow of the most needed, high quality visual materials from the producers.* I believe that educators are far more responsible for this being a problem than are the producers. Adequate markets have not been provided even for the superior visual materials of unquestioned educational merit. We cannot blame the producers when we will not accept and use their best products in sufficient quantity to make their production economically practical. That is our problem to solve, not the producer's. In addition to the actual purchase and use of available materials perhaps the greatest service that we could render the producers would be for us to find some area of agreement about the materials we want and let them know what those wants are. There is a specific challenge, and satisfactory response to it would, I believe, do more than anything else to guarantee a continuous flow of the most educationally valuable materials. Can we determine our wants and make them known?

Education has an organization which could and should direct its energies vigorously toward the solution of these unsolved problems in the field of visual instruction. According to the constitution of the Department of Visual Instruction of the National Education Association "The object of this Department shall be to promote the improvement of classroom instruction through the effective use of visual and other sensory aids; to serve as a clearing house of information regarding the sources, values, and guiding principles in the use of visual materials, as determined by research; and to cooperate with other domestic and foreign agencies with similar interest and purposes." If the Department of Visual Instruction is to serve the purposes for which it was organized and now exists, it cannot ignore these fundamental unsolved problems in the field of visual instruction. If the Department is to provide the leadership and energy required to solve these problems, its members must at the same time also give some attention to unsolved problems of its own organization.

For nearly twenty years the Department of Visual Instruction has been the one continuing organization serving as a rallying point for all who were interested in the use of visual aids. The growth in membership, the specific accomplishments, and the record of achievement of this organization have not been phenomenal, but it is an organization that has survived the ordeals of infancy and adolescence. Now as it approaches maturity, if it can make the adjustments demanded by its adult status, it can make genuine contributions to the educational world.

The Department needs most of all *a planned program of action.* It needs to recognize the problems impeding progress in the visual field and to devise a realistic and definite program for their solution that can call all of its members into cooperative action.

The Department needs more members. Examination of the membership list discloses that many well known visual leaders are not members. The Department needs them. It needs more members because the kind of program that needs to be planned will demand participation by larger numbers. The Department needs the greater financial stability that will result from increased membership. A particularly significant development in relation to potential future membership and the stability of the Department is the proposed Zonal Plan which calls for regional organizations within the Department. Such a plan offers the opportunity for developing a program more closely related to the interests of its members and for bringing members more actively into the affairs of the Department. It holds out the promise of greatly increased membership and raises new organizational and leadership problems. The amendments providing for the zonal plan were introduced at the regular meeting last July and will be voted upon finally at the meeting in Boston next July.

The Department needs the stability that can be given to it by an executive secretary, employed at least part time by the Department, and a permanent national office. An executive secretary would carry on the routine business affairs of the Department and eliminate the inefficiencies resulting from a complete shift in administration each year. The zonal plan will make this need greater and may make its fulfillment possible.

Finally, the Department deserves greater respectability among national educational organizations. It deserves this because of the fundamental values of visual materials in the learning process. It deserves this because of the great potential contributions of visual materials to the improvement of classroom instruction. It deserves greater respectability because of the cause it seeks to promote. The Department can gain greater respectability in terms of the kind of program of action it develops and its degree of success in carrying it through. It can achieve its rightful place among educational organizations if it can strengthen its structure from within. It can make lasting contributions to American education through accepting the challenge of the unsolved problems and by actually bringing about a higher level of instructional achievement through the use of visual aids.

Education in Defense of Democracy

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THE PRESENT emergency has glaringly revealed apparent national weaknesses. The devotion of many of our people to the ideals and forms of democracy is frequently questioned. Our physical stamina and productive capacity seem much lower than we had believed. The courage and tranquillity which spring from confidence in our national accomplishments seem strangely lacking.

The revelation of such apparent weaknesses leads to several typical reactions. An increasing pressure is likely to be placed upon the schools to set aside a special time for teaching patriotism or to compel loyalty oaths from teachers and students. A growing demand may be made for a return to the fundamentals of education which are commonly interpreted as the "Three R's," rigid discipline, and difficult tasks for school children. A great upsurge in emphasis on vocational and physical education may be observed and finally many groups will plead for a reduction in expenditures in education on the ground that defense requires first claim on our resources. In this situation we must not forget that such weaknesses in our national life can be remedied only through educational processes.

Loyalty to democracy is not acquired through compulsory loyalty oaths or through special periods set aside for teaching the Constitution. Loyalty develops through an increasing clarification and experiencing of democratic values which must permeate the school within and without the classroom. The improvement of the physical stamina and the productive capacity of the people require a program of health and physical education which is an integral part of a comprehensive program of general education. Confidence in the achievements of democracy grow from a broader and deeper understanding of our national development and our national accomplishment. That is to say, the elimination of these weaknesses places a greater responsibility upon American education than we have commonly recognized in the past. The effective fulfillment of this responsibility requires the devotion of more resources and efforts to education and the building of a better comprehensive program rather than the addition of certain few phases to the work of the schools. Continuing the type of educational job which has been done the past twenty years will not make the contribution to our country which the schools are capable of making. The school is now accepting a responsibility for a wider range of educational objectives. The development of the good citizens involves not only the acquisition of information and of skills but also the ability to understand significant features of our complex life and the ability to think clearly through the new problems which continually confront him. The school is forced to accept increasing responsibility for such objectives as the development of democratic social attitudes, of fundamental work habits, of wide and mature interests, of clear and deeply cherished values. Unless attention is given to all of these aspects of effective citizenship, the educational program is not likely to be well rounded and effective.

Furthermore, the acceptance of such a wide range of educational responsibilities demands educational learning materials in order to attain these objectives adequately. It seems to me, therefore, that we face two major tasks —one to clarify our purposes in a broad and comprehensive fashion and in the light of our increasing concern for democracy and two, to develop more varied curriculum materials appropriate for each of these educational purposes.

In the clarification of our educational purposes, we probably need to recognize the various aspects of development which we hope will result from our educational efforts. We shall need to recognize that young people are developing sets of values and that our responsibility is to help them in clarifying their values, in making them increasingly social rather than selfish, and learning to cherish them more deeply because they apprehend their significance. We shall recognize also the significance of helping young people to identify and to analyze important personal and social problems which prevent the fruition of these democratic values in their own lives and in our social system. We shall also want to help them acquire certain important facts, concepts, and generalizations which enable them to understand the nature of these problems and possible methods of solution. We shall try to help them develop various sorts of skills needed in effective thought and action, skills both intellectual and manual. We shall want to help them develop more effective adjustment to themselves and to others so that they may think and act with serenity and confidence and not be hampered by fear and conflict. These are illustrations of the kind of formulation which any school faculty needs to make in indicating more clearly just what it is trying to do in educating in defense of democracy.

Furthermore, this clarification of our educational purposes should make us increasingly conscious of the relation of these various phases of development. Values are related to interests, to attitudes, to information, and to ways of thinking. In similar fashion, other aspects are interrelated. If we attempt to develop each of these things in isolation, we do not achieve an effective citizen. For example, if attitudes are developed in a vacuum without reference to pertinent facts, and to careful and critical thinking, students are at the mercy of the next propagandist who plays upon their emotions for his own purposes. Furthermore, thinking cannot be effectively carried on without understanding all those facts and ideas which form the counters of their thinking. Otherwise, by a process of formal logic alone students believe that they are thinking through a problem when they are merely manipulating words, the meaning of which and the truth of which they do not know. These two illustrations may be sufficient to indicate the importance of stating clearly the various objectives which we must attain in developing a good citizen and also the importance of the relation of these objectives one to another.

The second problem, that of enlarging our repertoire of learning experiences in order to accomplish this wider range of educational objectives is closely related to the first. To obtain materials that may contribute to these various objectives demands the utilization of many types of learning media. We will need to use not only reading materials and firsthand experiences but also auditory and visual materials. Furthermore, the range of objectives will demand visual materials of many different sorts. Materials helpful in apprehending important facts will probably differ in their nature from those which help to identify problems which should be of concern to students. Materials useful in seeing what values are at stake in various types of human association will differ from those which are useful in clarifying scientific principles. Materials which help to analyze the essential features of a complex skill will differ from those which help to arouse wider and more worthwhile interests. Hence, visual materials must be selected from the point of view of the several purposes upon which the curriculum is focused.

Furthermore, the particular contributions of visual instruction in connection with these various objectives need to be identified more clearly and capitalized upon. The chief defects of verbal instruction are those common in all forms of symbolism. Students may use words without having had those concrete experiences which help to give words meaning. They may think that they understand ideas because they have heard the words. The expression of a verbal reaction may take the place of direct and helpful action. In overcoming these defects of verbal instruction, visual materials may have their greatest value. Visual materials may help students to see problems of which they

were not previously aware. Visual materials may help to give a concreteness to situations and certain meanings to facts which would otherwise escape them. Visual materials may provide a detailed analysis of a complex process difficult to apprehend verbally. Visual materials can combine in one short time or space sequence things which are separated widely in time and space and may thus promote an apprehension of relations otherwise difficult to grasp. It is in these respects particularly that the curriculum director looks to the field of visual instruction for assistance.

From the nature of the present emphases upon education and national defense, it seems likely that the present crisis will stimulate the development and use of visual materials in five major areas:

1. Those useful in occupational orientation and vocational education.
2. Those which provide facts about the defense program and other activities of the country in attempting to meet the national crisis.
3. Those which help to clarify the fundamental values cherished in a democratic society such as the respect for individuals as persons regardless of their nationality, race, religion, or economic status; encouragement of variability among persons; the settlement of issues through free discussion and group decision; the encouragement of wider social participation on the part of every individual; faith in intelligence as a means of solving problems.
4. Those which help to build confidence in the effectiveness of a democratic form of government through a better understanding of the achievement of democracies.
5. Those which help to build understanding of Latin America.

The present crisis provides an ideal opportunity to show the educational effectiveness of visual materials when properly combined with other helpful types of learning experiences.

The Wartime Use of Motion Pictures in Britain

RICHARD R. FORD
British Library of Information

FIRST, I propose to survey what has actually happened in the British motion picture business since war began with emphasis on the production and exhibition of short documentary-type films. Afterwards, I shall offer some comments on the purpose of the wartime short films and the trend of policy affecting their subject matter, length and distribution.

As you know, peacetime documentary film production in Britain maintained a level of quality that was recognized the world over. These prewar films were mainly sponsored by commercial and industrial interests, local Governments and State Departments. Many of them are well known to you—*North Sea, The Londoners, Five Faces of Malaya,* or *Housing Problems,* for instance. When war was declared in September, 1939, nearly all these sponsors and benefactors drew in their horns, and the various short film production units were faced with the prospect of extinction. But, before long, a light dawned in the shape of the Films Division of the Ministry of Information—a brand new Government Department. It was many months, however, before that light burnt with a steady flame. But, after a good deal of trial and error, the Division has emerged with flying colors and an unparalleled amount of production to its credit.

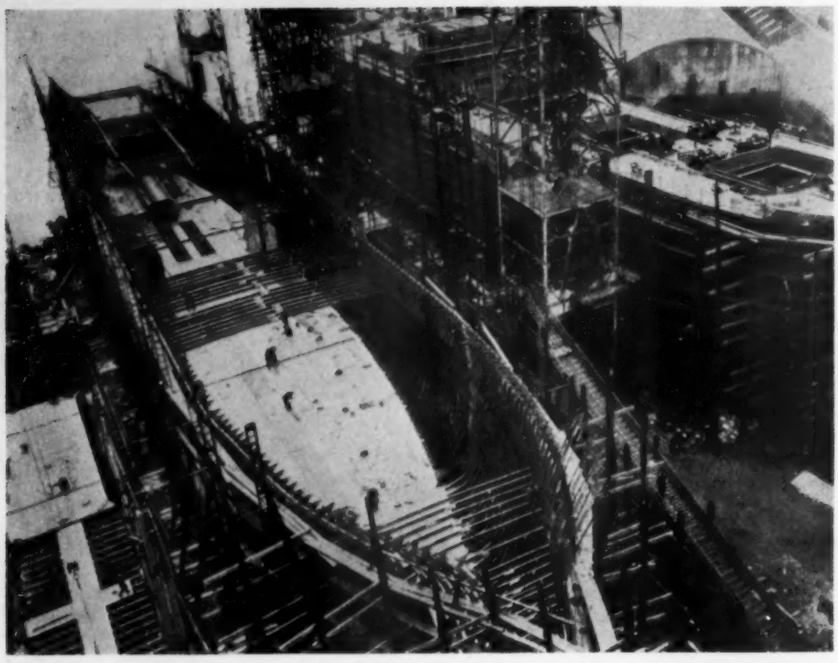
One of Britain's short film units—the G.P.O., or General Post Office—had long been established under a government Department. This unit, which grew out of John Grierson's Empire Marketing Scheme over ten years ago, has fully maintained its very high standards. It was responsible, in the early months of the war for *The First Days, Squadron 992,* which deals with balloon barrage, and *Spring Offensive,* which explained the State aided scheme for increasing land under cultivation. Recently, you may have seen *London Can Take It,* and *Christmas Under Fire,* with those sincere commentaries by Quentin Reynolds—both made by the G.P.O. Unit. The early months also saw *The Lion Has Wings,* feature film made by Korda, assisted by documentary producers. Some of the short films produced at that time now seem curiously dated—films made with English and French commentaries, three-minute films warning the public against gossiping, and a film showing London children evacuated to a seaside resort that is now in the front firing line. As with other aspects of the war effort, it was not until after Dunkirk that the true role of films in wartime became apparent. Since that time, production of shorts sponsored by the Government has been phenomenal, work being assigned to half a dozen units as well as the G.P.O., as well as the commercial film studios and newsreels; and it is worth mentioning that whereas in the early months much of the work went to the studios, the tendency lately has been to give more and more to the documentary units.

First, let us take the short films made for showing in the movie theatres. This is the so-called five-minute film scheme, under which the Ministry of Information has been issuing a single reel free to every theatre, at the rate of one per week, ever since June, 1940. . . no small achievement. It is difficult to generalize about their subjects, as they cover almost the whole field of war effort. Most are intended to convey specific advice, presented in an entertaining way. The subjects include saving instead of spending, wartime diet, salvaging aluminum utensils, dealing with parachute troops, gossip, Home Guard activities, and a warning against staring up at aerial dogfights. *London Can Take It* was also one of the series; so was Mr. J. B. Priestley's exhortation, *Britain on Guard. War and Order,* showed the wartime duties of the police.

The non-theatrical story is more remarkable. In the summer of 1940 the Government made available a small sum

(Courtesy English Speaking Union, Chicago)

British youngsters being evacuated from cities.



(Courtesy BRITAIN TODAY.)

Two scenes from the British film "Behind the Guns."

of money to finance a scheme for showing 16mm films in places where they could reach a public beyond the public movie theatres. The scheme provides about 50 mobile projectors serving mainly rural areas, and loan of a further 100 projectors to public libraries and similar meeting places, and the creation of a Central Film Library to supply prints free of cost. The films for this scheme come from three sources—industrial, such as the Gas Industry's films on wartime cooking; the Government's five minute film scheme that I have just described and finally, films specially made for non-theatrical showing. Twenty-one new films were commissioned, of which seventeen were placed with documentary units and four with the four newsreel companies. These films for 16mm exhibition provide, in the main, information about what is going on—to use a broad phrase. Britain in wartime suffers from certain obvious disabilities: travel is discouraged, letters delayed, and parts of the country are isolated for military or other reasons. These non-theatrical films, with their brief descriptions of coastal defense, factory life, the meaning of Reserved Occupations, State maternity services, schools in wartime, industrial health, army medical services and so on, help to bridge the gaps of loneliness when families are divided, children evacuated, brothers on Service, sisters in distant factories, and the old people just carrying on. The service comprised 50 traveling Units reaching 135,000 weekly in theatres and public libraries. By mid-winter, these 16mm shows reached a total of 700 per week, with an average audience of 150 for each.

So much, in brief, for the two main groups of short films sponsored through the Ministry of Information. Examples of both groups are now available in this country. They were not made, as you know, to influence opinion here: but were brought over to show to those who are interested in the public psychology of a country at war, how one phase of Government publicity is being conducted.

Long before the Ministry of Information was contemplated there existed to improve and maintain cultural relations between Britain and other countries, the British Council, whose film department has recently made 32 wartime short films for overseas distribution. The character of such films is of course entirely different from those sponsored by the Ministry of Information for home consumption. Their purpose is to present a picture of Britain preserving and maintaining its cultural standards in wartime—films, for instance, about Oxford today, about the Green Belt around London, about craftsmanship in pottery, about the resourceful inventors of Scotland, about fisheries and about Britain's reply to the cultural challenge of Germany. The British Council has also produced an all diagram film showing the history of the countries bordering the Atlantic Ocean, to be followed by similar films about the Pacific and Indian Oceans.

At the risk of mentioning too many titles, I must add a word for those who appreciate "documentary technique"—for want of a better phrase. In both *Spring Offensive,* and *Men of Africa*—the latter is the first film to examine the problems of colonial administration in Africa—you will find examples equal to the best. And keep an eye open for *Men of the Lightship* which reconstructs the attack of a German bomber on an undefended lightship, and the fate of the crew. It will be released soon, I expect. These are not the only examples. The documentary training of the British short film makers is evident again and again, even in the most hurried jobs. You will perceive, when you see these films, an attitude towards the subject, an appreciation of the other man's point of view and an expression of belief in democratic ideals. For over ten years these film makers have worked in a tradition recognizing that the film, by giving the dramatic significance of everyday life and work, could become a great instrument of democratic education. Thanks to their outstanding skill, the documentary has had an influence out of all proportion to its cost or its distribution.

In these days the documentary producers have new difficulties—complica-

Scene suggestive of the new films "Village School" and "Spring Offensive."

tions of transport, the difficulty of finding hotel space in overcrowded towns in safe areas, the delays of air raids in London. Here are a few sentences in a recent letter from one of them—

"The documentary movement in England is dealing with a greater amount of work than at any time since it came into existence in 1929. The Films Division has become progressively more enlightened. It is pretty certain that they will commission a large number of short films this year—about 100, perhaps. Their length will range between the 5-minute films, which is well liked by the public and the fairly expensive prestige three-reeler. In addition to the films ordered by the Ministry, documentary units are also engaged on films for the British Council and the War Office, while the oil industry's non-theatrical schemes continue, and the gas industry may re-enter the field this year. The War Office has recently set up its own film unit. Generally speaking, I think there is a tendency for our current and forthcoming productions to have not merely more enlightened subject matter, but more enlightened treatment of the subjects. Our general impression is that movie theatres are doing better than they were a couple of months ago. The London ones close at 7 in the evening. The Chaplin film is an enormous success and is still running at three of the largest theatres in London and also in many big provincial cities."

Less than 10% of Britain's cinemas are closed, and except in the West End of London, they are not doing badly. Nor does bombing seriously interfere. A cinema in the suburbs is smashed one night, but this does not prevent the next door theatre being full the next night. The morning after the worst raid on Manchester, which caused extensive damage, my mother and father—both over 60—were waiting in the line to see *The Great Dictator*, which they thoroughly enjoyed, being quite undismayed by an alert during the performance. You may have heard the story of the two London boys, who were evacuated to a rural school. Becoming somewhat difficult to manage the headmaster permitted them to go by bus to the nearest town to see the movies. Soon after they went, the town had a daylight raid, and the headmaster feared the worst, especially when there was no sign of them for supper. He was about to go and make enquiries when they turned up, looking well and very hungry. When asked what happened, the elder said, "Oh Sir, we were bombed out of the Rialto so we went to Plaza."

I believe, as I have said, that the part of Britain's home information service dealing with movies is doing a remarkable piece of work. The results in terms of films made and distributed are impressive to say the least, and, in fact, unique in motion picture history. The reasons are several and I would like to suggest one or two that may interest those who are concerned directly or indirectly with Government film work here. First, smooth, intelligent, fairly free and flexible relations between Government Servants in charge of administration and the short film producers, by which the Ministry exercises control over subject and theme but delegates the creative treatment to creative people. Secondly, an absence of conflict about costing and profits, with an understanding that every film will achieve all it can within its budget. (Budgets for British shorts are surprisingly small). Thirdly, the public is the judge: it likes Ministry films when they are good, and raises cain when they are poor. Incidentally, there is evidence that the public likes Government films about ordinary people and dislikes films about socialites playing their part between cocktails.

The Latest Survey of College and High School Motion Picture Equipment

NATHAN D. GOLDEN
Chief, Motion Picture Division,
Bureau of Foreign and Domestic Commerce

IN MAY, 1940, at the request of interested manufacturers of motion-picture equipment, distributors and producers of industrial and educational motion pictures, and at their expense, the Motion Picture Division of the Bureau of Foreign and Domestic Commerce undertook a survey that would indicate the schools in the United States which have motion-picture facilities, and those which do not but which might be interested in acquiring such equipment. Because of the magnitude of the undertaking, the survey was broken down into two parts, Part I to cover high schools and colleges in the United States, and Part II to cover elementary schools. (Only Part I is discussed here).

On May 15, 1940, there were mailed to 28,277 public, private and parochial high schools and colleges in the United States and its Territorial Possessions, a simple postcard questionnaire. By July 30, 1940, only 9,855 replies had been received. Feeling that the mailing was made at a time when schools were finishing their year, and that a number of replies were overlooked in the rush of graduation and vacation periods, the Division prepared a second mailing to those schools that had failed to report. This second mailing was released on September 20, 1940, and resulted in the receipt of 7,609 additional replies, making a grand total of 17,500 replies from a mailing of 28,277 questionnaire cards. Of this mailing it was found that 283 cards were returned representing elementary grade schools and 161 cards were returned with post-office notations indicating that the schools were either closed or consolidated with other schools. Eliminating these 444 cards gives us a net of 27,833 questionnaire cards to consider in this survey. With 17,500 replies received, this represents a 62.9 percent return of the net questionnaire cards being considered.

It is interesting to note that of the 1,725 colleges contacted, 1,424 or over 82.6 percent made reply. Of the 2,935 questionnaire cards mailed to private and parochial high schools, 2,341 made replies, or a 79.8 return. The return from 14,725 public high schools shows

62.3 percent replies out of the total of 23,617.

Present and Prospective Usefulness of Data

Compilation of returns commenced in October 1940. Because of the short time which elapsed in making this survey available to interested groups, it is felt that the data are timely and should be useful both to distributors of educational films and to equipment manufacturers who are seeking outlets for their products.

Since the inception of this survey, the Government had entered upon its Defense Program on a large scale. This survey therefore should be helpful to Defense officials interested in the utilization of the motion picture as an instrument of education for specialized groups and workers. Through the information presented it is possible to ascertain immediately which high schools and colleges are equipped to show motion pictures in the furtherance of such Defense educational programs as may develop.

Cultural and Utilitarian Functions of Films

Many important industrial organizations have sponsored educational films and furnished free distribution of prints to schools. Some of these companies have had a sufficiently broad vision to eliminate direct advertising and selling elements from their films. In such cases their efforts to reach the educational field have been notably successful. Others have included a burdensome amount of advertising or blatant sales "plugs," and have found that, to them, most educational channels of distribution have been closed.

Industry, in part, has realized the value of the film in creating good will that finds expression in the years to come. They are willing to invest in futures, and so they use the classroom, not to tell of the superiorities of a particular product, but to give a broad view of a process or an industry and to instill in the audience an appreciation of the part played by an industry in the march of American progress. Their contribution is a patriotic one, and they deserve the wide acceptance which has been accorded their films.

Any keen observer of the current scene perceives at once the state of flux, the clashes, the swift changes and readjustments in political and social ideas in many regions of the world. On one point our own country stands absolutely firm and undeviating—that point being its devotion to the principles and methods of democracy. But we all realize that if democracy is to be enabled to stand its ground during the coming years, and to develop its inherent strength and magnificence of purpose, it must be based on an adequately informed public opinion. It must rest solidly on knowledge—on the possession of all the essential facts about modern life. The citizens of a democratic republic must know, and be able to appraise, all the things that influence his daily round of life—all the things that contribute to his convenience, security, power, and ease of movement—all the things that help to shape the vigorous social currents that swirl around his head.

This means that he must know the *industries* of his native land. And such knowledge can be imparted most profitably and advantageously in his youthful, formative years, when he is in the classroom, intent on education. A new, dynamic, modern realistic spirit is making itself increasingly felt in American education. We long ago came to understand that education was not merely a matter of ancient history, lyric or epic poetry, conjugations or foreign verbs, and abstruse philosophic concepts. And today we know that education should not (on the other hand) be a matter of exclusive concentration on some narrow practical specialty, professional or technological. True education today must embrace a broad, clear comprehension of all the major factors that go to make up modern life.

Outstanding among those factors is American industry, in all its aspects. If the young American of today is to play a proper part in the teeming, splendid life of our Nation, he must know about machinery, factories, manufacturing processes, business management, consumer requirements, inventive ingenuity, maintenance of quality, stylization of merchandise and many phases of mass production and of individual craftsmanship. Only by familiarizing himself with such vital elements in the everyday working of our national economy can he render himself competent to confront, and pass upon, the major problems of the present day and of the years to come. Thus, without the slightest doubt, a knowledge of American industry should play a highly important role in the schooling of our youth. It must form a part of any rational training for good citizenship.

The use of motion pictures in education has developed during the past four years into a potent instrumentality for a great number of progressive educators in the American school system. Observations made in various centers throughout the country have proved conclusively that, where motion pictures have been used in the presentation of educational material, a greater knowledge of the subject has been gained by students and the vital factor of retention has been heightened and strengthened.

It is generally acknowledged that the motion picture is unmatched in its portrayal of scientific experiments, biological and botanical processes, in graphic, detailed and illuminating manner. In subjects such as geography, it conveys actual reality with incomparable exactness. Re-creations of history and exemplifications of civic themes by means of motion-picture films arouse and maintain the student's interest in these vital subjects. In still other fields of study, the great usefulness of the motion picture has also been amply demonstrated.

The inherent appeal of the medium—arising from youth's instinctive love of pictures and the reaction normally associated with entertainment films — serves almost invariably to intensify and "vivify" the reception of knowledge through the motion picture, rendering the knowledge thus imparted an integral, dynamic part of the student's mental and emotional make-up. Consequently, it seems highly essential that dependable facts should be made public showing the extent to which motion-picture equipment is available in American educational institutions at the present time.

Comparison with Previous Survey

Four years ago a study was made by

Due probably to typist error in the original copy supplied to us, there appear some inconsistencies in totals and percentages on the Questionnaire return. Because our deadline precludes a check-up by the author, we give here a tabulation of figures as given in the text.

Eliminating the 444 "elementary" and "closed" schools the figures are:

Mailing	Returns	% of Returns	
27833	9855	35.4%	(of first mailing)
17978	7609	42.3%	(of second mailing)
45811	17464	38.1%	(of total mailing)
		or 62.7%	(of schools contacted)

The distributed figures given (including the 444) show the following:

	Mailing	Returns	%	
Colleges	1725	1424	82.6%	(of those contacted)
Private and Parochial Schools	2935	2341	79.8%	(of those contacted)
Public High Schools	23617	14725	62.3%	(of those contacted)
Totals	28277	18490	65.4%	(of those contacted)

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the American Council on Education and the U. S. Office of Education, resulting in the publication of a National Visual Education Directory which covered 9,000 school systems in urban areas in the United States. It was found in 1936 that 6,074 16-mm. silent motion-picture projectors and 458 16-mm. sound projectors were available, while only 3,230 35-mm. silent motion-picture projectors and 335 sound projectors were in use. Also, 2,733 film-strip projectors were available.

Since this survey was based upon the number of school systems rather than upon the individual schools, it is difficult to make comparison with the present study. The above figures are cited merely for the purpose of any comparison that the reader may desire to formulate with respect to the progress and use of motion pictures in American school systems.

Salient and Significant Facts Here Developed

The present survey covers 12,443 16-mm. motion picture-projectors and 2,447 35-mm. motion-picture projectors which were reported as owned by colleges and high schools in the United States and its possessions. Of the 12,443 16-mm. projectors, 6,059 are silent and 6,384 are equipped for sound. Of the 2,447 35-mm. projectors, 1,624 are silent and 823 are sound.

Of the total number of projectors in the United States and its possessions reported in the replies to our questionnaires, 12,411 16-mm. projectors and 2,426 35-mm. projectors are in colleges and high schools located in Continental United States. Of the 12,411 16-mm. projectors, 6,037 are silent and 6,374 sound. The 2,426 35-mm. projectors consist of 1,612 silent and 814 sound machines.

The present survey shows that 4,182 silent 35-mm. film-strip projectors and 143 35-mm. sound film-strip projectors are in use in the colleges and high schools of Continental United States and 22 silent and 6 sound projectors in its Territories and possessions.

According to the data presented, 9,690 high schools and colleges failed to reply to the questionnaire. It is reasonable to assume that many of these have motion-picture projectors. It may be reasonable to estimate that from 15 to 20 percent of these failing to reply have at least one 16-mm. projector.

Of interest also is the fact that 7,525 schools state they have no permanent motion-picture equipment of any type. Certain of these, however, indicate that they "can borrow" or "rent" as many as 5,578 16-mm motion picture projectors and 1,070 35-mm. projectors either from other schools or from commercial distributors of such equipment. This group presents a potential market for those engaged in the distribution of educational films and equipment.

Criteria for Selecting Motion Picture Projection Equipment

JOHN A. MAURER

Chairman, Committee on Non-Theatrical Equipment
Society of Motion Picture Engineers

THIS is a preliminary report on what is now the principal activity of the Non-Theatrical Equipment Committee of the Society of Motion Picture Engineers. This committee is made up of sixteen members, all with extensive professional experience in 16mm. motion picture and sound reproducing equipment. Since the early part of last year, at the request of the Committee on Scientific Aids to Learning, of the National Research Council, our Committee has devoted most of its time to the working out of a set of performance specifications, or criteria, intended to serve as a guide in the selection of 16mm. projection equipment for use in schools.

Early in the course of this work the Committee decided that its report ought to consist of two parts, first, a set of definite technical specifications, which, by their inherent nature can only be made use of by a fully equipped testing laboratory, and, second, an interpretation of these specifications in less technical language, suitable for those who will be called upon to make decisions on the basis of the reports of a testing laboratory, or, perhaps, only on the basis of such observations as can be made without accurate testing facilities. The committee's main project will require several more months to complete it. The main principles on which the report is to be based, however, have furnished an outline for the present paper. But while this paper thus embodies much of the Committee's work, it has unfortunately not been possible to submit this paper for approval by the Committee and therefore the writer should be held solely accountable for any errors it may contain.

It is important to establish our basic approach to the problem at the outset. The title of this paper is *not* "Criteria for Selecting Motion Picture Projectors". It is "Criteria for Selecting Motion Picture Projection Equipment." What is needed is proper coordination of projector, screen, and sound equipment with the size, shape, seating arrangement, and acoustics of the room. In a completely scientific and logical selection of equipment, the projector itself is the *last* item to be chosen.

Our first, and fundamental, criterion for picture projection can best be stated in terms of the audience. Especially in a schoolroom, *every spectator is entitled to a good view of the picture.* This means that he must be able to view it from a suitable distance, neither too near nor too far. It also means that if it is necessary for him to view the picture at an angle, this angle must not be so great as to produce objectionable distortion. Furthermore, it means that the picture must be bright enough, but not too bright, and that there must not be any condition that produces eye strain, such as glare from a noticeable "hot spot" on the screen.

For 16mm. projection, the distance from the screen to the farthest row of seats should not be more than six times the width of the screen, but at the same time the distance from the screen to the nearest seats should not be less than twice the width of the screen. In order to satisfy both these conditions at the same time, the screen must usually be placed on the front wall of a classroom.

If the projector is equipped with the usual two inch projection lens, it will fill the screen when its distance is 5¼ times the screen width. Therefore the stand for the projector should usually be placed about five-sixths as far from the screen as the farthest row of seats. It is better to place it even with the farthest row of seats provided the nearest row of seats is not too close for the size of the resulting picture.

No one in the audience should be required to view the picture from an angle of more than thirty degrees. Stated differently, this means that no row of seats should be longer than its distance from the screen. In order to satisfy this condition in schoolrooms that are square rather than oblong, the pupils who normally occupy the front corners of the seating space should be moved closer to the center line of the room when pictures are to be projected.

Screens are of several types. Some have smooth matte white surfaces, and reflect the light almost equally in all directions. Such a screen provides as bright a picture for those at the sides of the room as for those at the center. A second type is the glass bead screen, which is directional in its reflection. It provides a brighter picture than the first type within a viewing angle of about twenty degrees, but at an angle of thirty degrees the picture is not as bright as it is with the matte surfaced screen. Still other types have metal coated surfaces. They are still more directional than beaded screens.

In any room that is square or nearly square, only the uniformly reflecting, or matte surface type of screen should be used. When the room is oblong enough that most of the rows of seats are not longer than two-thirds of their distance from the screen (corresponding to a maximum viewing angle of twenty degrees) the beaded type of screen should be chosen. Metal surfaced screens should not be used at all for classroom or auditorium projection of motion pictures.

From the considerations that have been given it is a simple matter to determine the proper size and type of screen for a given room. If, then, we know what

screen brightness is necessary for good seeing, we are in a position to calculate how much light the projector must deliver to the screen. The recommendation that has been adopted by the Non-Theatrical Committee is that in 16mm. projection the screen brightness, as measured with the projector running but without film, should not be less than five foot-lamberts, and not more than twenty foot-lamberts.

It should be noted that these values are stated in terms of the *foot-lambert*, a *brightness* unit. The *foot-candle*, which has often been used in this connection, is a unit of *illumination*. It measures the light falling on the screen, but tells us nothing about the brightness of the picture unless we know the reflecting properties of the screen.

The following table has been calculated on the basis of the known reflection factors of typical screens, and shows the light flux, in *lumens*, that is required from the projector. It will be noted that two columns of values, corresponding to optimum and minimum conditions are given for the uniformly reflecting type of screen. Because of the directional nature of the reflection from a beaded screen, the amounts of light specified for this type will give a brightness of fifteen foot-lamberts as seen from the center line of the room, and only five foot-lamberts at a viewing angle of twenty degrees. Therefore, there is little leeway within the recommended limits, and it is for this reason that only one column of figures is given for the beaded type of screen.

This table will become really useful only when definite information is provided as to the light output of the projectors on the market. It is expected that this information will be made available by the projector manufacturers in the not very distant future. In the meantime it can only be stated, in a very general sort of way, that projectors using 500 watt lamps are likely to be suitable for screen widths up to four or five feet; that pictures six to seven feet wide will require 750 watt lamps, and pictures eight to nine feet wide will require the comparatively new 1000 watt short-life (10 hour) lamp. Pictures ten feet wide or more will require arc lamp projectors.

A good arc lamp projector delivers about 900 lumens if equipped with a two inch projection lens of the largest aperture. Therefore for ten to twelve foot picture widths the screen should be of the uniformly reflecting or matte type. On a beaded screen 900 lumens will give excessive screen brightness for those sitting along the center line of the auditorium. The matte type of screen surface is likely to be required in any case by the shape of the auditorium. From this the conclusion may be drawn that screen widths of fourteen to sixteen feet are rarely justified in 16mm. projection.

All of the above figures and estimates on the subject of screen illumination expressly assume that the room in which the picture is being shown is *well darkened*. This means, darkened to such a degree that it is practically impossible to read ordinary book type anywhere in the room. It is believed that in the past not enough attention has been paid to this basic requirement for good school projection. It should be pointed out that it is not practical to compensate for the presence of stray light by increasing the light from the projector, even where reserve illuminating capacity exists. Adding more light does not restore the tonal scale of a picture if the blacks are being degraded by excessive stray light in the room.

With reference to sound reproducing amplifiers a similar table of minimum power output requirements might be drawn up, corresponding to rooms of various sizes and with different degrees of acoustical "liveness". In this respect, however, the variation from room to room is so great, and the acoustical quantities involved are so difficult to measure, that at the present time it does not seem worth while to attempt to present a table. In a general way it may be said that a power output of from five to ten watts will be sufficient for almost any classroom. For auditoriums at least fifteen watts should be available, and preferably more. It does no harm to operate an amplifier below its capacity, but when it is necessary to operate it at its limit in order to obtain a sufficient volume of sound, the distortion is sure to be extremely bad.

TABLE

Viewing Maximum	Distance Minimum	Screen Size	Number Lumens Required For uniformly reflecting screen		For beaded screen**
			Optimum	Minimum	
20′	6′8″	30″x40″	120	60	42
24′	8′	3′x 4′	172	86	60
30′	10′	3′9″x 5′	268	134	94
36′	12′	4′6″x 6′	386	193	135
42′	14′	5′3″x 7′	526	263	184
48′	16′	6′x 8′	686	343	240
54′	18′	6′9″x 9′	868	434	304
60′	20′	7′6″x10′	1072	536	375
72′	24′	9′x12′	1540*	770	540
84′	28′	10′6″x14′	2100*	1050	735
96′	32′	12′x16′	2740*	1370*	960

*These values seem to be in excess of what is now obtainable, even with an arc lamp projector.

**It should be borne in mind that the beaded screen is recommended only when practically all the seats give viewing angles less than 20 degrees.

We have now, theoretically at least, arrived at a point in our discussion where we are ready to make a definite choice of a projector. From the known size and shape of our classroom or auditorium we have determined the proper size and type of screen. From this, in turn, we know how many lumens the projector must deliver. We also know from which power output bracket the associated sound amplifier should be selected. Several machines are offered, each of which appears to satisfy these basic requirements. Which of them should we select?

A choice between competing projectors should be made on the basis of fundamental performance, and not on the basis of any special "features", unless it is clearly apparent that these features are making a definite contribution to the excellence of the fundamental performance.

The main emphasis should be placed on sharpness and steadiness of picture, intelligibility and naturalness of speech reproduction, naturalness and steadiness of pitch in music reproduction, and smooth, quiet operation. Excellence in these respects necessarily implies general good workmanship and quality of construction.

Much is frequently made of the question of film damage. The writer believes that no projector of reputable make will damage film if it is kept in proper operating condition and if the film is threaded correctly. On the other hand, any projector can and will damage film if it is threaded incorrectly, or if the mechanism is not kept clean. In no case of which the writer is aware is the threading a matter of special difficulty. Nevertheless, the only way to avoid film damage is to make some reliable person definitely responsible for the care, cleaning, and lubrication of each projector, and see to it that all persons allowed to operate it are properly instructed in the threading and control of the machine.

In the absence of a technical testing laboratory report, the only way to decide whether or not one of two competing projectors is superior to the other is to test them together in the same room, on the same screen, and with the same film. The film is the most important item. It is necessary to be sure that it has both sharp picture and good sound quality, or else two separate films should be selected for these qualities.

The two projectors should be connected to the same power line, so that they will receive the same voltage, but they should not be operated at the same time unless it has been ascertained that the line is capable of carrying a load of twenty-five amperes without damage. If this precaution is neglected, fuses will probably be blown.

First examine both projectors to see that their condensing and projection lenses are clean and that the lamps are new and of proper voltage rating. Then turn on each machine without film, and center the clear field of light on the screen. The field should appear evenly illuminated and free from striations or patches of color. If there is any marked difference of light efficiency between the

projectors it will reveal itself at this point, but unless this difference is great enough to be unmistakably noticeable when one machine is turned off and the other turned on, it is of no practical importance. Different lamps, even from the same lot, may differ enough in light output to produce a noticeable difference in this test. For this reason, if it appears that one projector delivers more light than the other, the lamps should be interchanged, if they are of the same type, and the test repeated. If there is a rheostat on either machine for controlling the lamp current, make sure that it is adjusted for the correct value. A choice between two projectors should not be made on the basis of a slight difference of light output unless other factors are substantially equal. In some projectors other desirable design or performance features have been legitimately gained at the expense of a slight loss of optical efficiency.

Next, thread the film selected for the picture test, first on one machine and then on the other, and project it, adjusting the focus as critically as possible and noting any differences in sharpness between the center and sides of the screen. At the same time compare the steadiness of picture on the two machines. If it is necessary to be very critical to detect a difference in steadiness, set the framing device so that the frame line is visible on the screen. Walk directly up to the screen, and hold a ruler against it. In this way the amount of frame line jump can be measured with considerable accuracy. It should not be more than one-half of one per cent of the width of the picture. Make this test in the same part of the film for both machines.

Next, if the projectors are sound machines, thread the sound test film and run it first on one machine and then on the other. Try the effect of the tone controls, and attempt to decide what adjustments give the most satisfactory effect for speech and for music under the room conditions existing. It is important that this test be conducted under the acoustical conditions in which the machine will actually be used. For example, do not draw a final conclusion from a test in an empty classroom or auditorium, but arrange to have an audience of normal size present and in their seats. On account of the variable element introduced by the tone controls, it may be necessary to run the sound test film several times, first on one projector and then on the other, in order to decide whether or not there is a clear superiority of one over the other.

The 16mm. sound and picture test reels of the Society of Motion Picture Engineers are still the best films available for the critical comparison of projectors. They are several years old, and are unquestionably capable of improvement, but nothing else of equal or greater merit has appeared to take their place. The sound reel is particularly valuable because it contains excellent records of both speech and music of types particularly suited for revealing imperfections in projector performance.

In the absence of these special test films, the demonstration reels used by projector salesmen can usually be assumed to be of good quality. The important point is to run the same films on *all* machines being tested, at the same time and under the same conditions. Demonstrations at different times or in different places and with different films are not conclusive.

During the sound tests it should be ascertained how far the volume of music may be increased on each machine before noticeable distortion sets in. It is usually, but not necessarily, true, that the amplifier that permits the higher volume without distortion will give cleaner reproduction at normal volume. This point can be checked by attentive listening.

The projector that seems to be the most satisfactory up to this point should be subjected to the further test of projecting two 1600 foot reels of film, one immediately after the other. During this period of about one and one half hours continuous operation, there should be no noticeable change in the quality of performance, and no part of the machine should become hot enough to burn the hands of the operator.

In the course of these tests the person conducting them will certainly have formed a general idea of how the machines compare in value, as evidenced by good appearance, good workmanship, convenience, and the like. He will naturally decide on the basis of these factors as well as on the result of the more fundamental tests. But if he has followed this simple testing routine faithfully, he can be satisfied that he has really made his choice on the basis of value and suitability for the task intended, and if, after all, a certain element of personal taste has entered into the matter, no one should complain. We are still a long way from being able to specify a "best" design of projector, even for a very definite purpose.

To the Members of the D. V. I.:

Most of the prepared words that were spoken and read at the Winter Meeting of the Department are printed in this issue of EDUCATIONAL SCREEN or will appear in the next. We hope that these reports and addresses will to some extent bring the values of the meeting to those of you who could not attend. But the unprepared words—those that were interjected spontaneously into the discussions and conversations—were not recorded and therefore cannot be included as a part of our proceedings. Perhaps they were just as important.

Although I may be too optimistic and too biased because of my interest in the Department to judge objectively, I sensed new enthusiasms, an increasing willingness to face our problems squarely, and a determination to move forward actively in the visual field. Many expressed the thought that we seemed ready now to move toward real accomplishment.

At the Executive Committee meeting, which was attended by eleven of the fourteen officers and members of the Committee, considerable attention was given to the problems of membership, the proposed zonal plan, the coming Summer Meeting at Boston, and the need for a permanent office and secretary. It was our privilege to have Mr. H. A. Allen, Business Manager of the N. E. A., with us for a part of our meeting. As a result of this Committee meeting, I can assure you that every person present is going to work thoughtfully and constructively during the next few months in an effort to find the ways and means to bring about greater stability in the Department so that the whole visual instruction field may be strengthened.

We are hopeful that we may soon be able to submit for your consideration a definite and forward looking program.

Yours sincerely,
PAUL C. REED, *President*

The Literature in Visual Instruction

A Monthly Digest

Conducted by ETTA SCHNEIDER

HISTORY AND PRINCIPLES

Role of Visual Materials in Education —Edgar Dale—*Cal. Journal of Secondary Education,* 16:9 Jan. 1941
(See ■1)

Audio-Visual Aids: Relation to the Learning Process — Harry H. Haworth, Pasadena, Cal.—*Sierra Educational News,* Jan., 1941
(See ■2)

ADMINISTRATION

A Proposed Visual Program for California—H. M. McPherson—*Cal. Journal,* 16:36 Jan. 1941
(See ■3)

Ventura County's Program of Visual Education — Persis Hamilton — *Cal. Journal,* 16:33 Jan. 1941

The experiences of one school system in organizing and administering a practical program of visual aids with the help of competent workers in a WPA project. Especially helpful should be the ways in which the group used inexpensive materials to make available aids that were otherwise inaccessible.

UTILIZATION

Use of Motion Pictures as a Curriculum Aid — Lillian A. Lamoreaux, Santa Barbara—*Cal. Journal of Secondary Education,* 16:30 Jan. 1941
(See ■4)

Using Visual Aids in a Social Science Unit—Howard C. Walters, Francis W. Noel, (Santa Barbara) *Cal. Journal of Secondary Ed.,* 16:18 Jan. 1941
(See ■5)

Pictures in Social Studies Teaching—Leland S. March, Melrose, Mass.—*Social Education,* 5:26-30 Jan., 1941
(See ■6)

Audio-Visual Materials in Modern Instruction—Gardner L. Hart, Oakland, Cal.—*Cal. Journal of Secondary Education,* 16:14 Jan. 1941

Possibilities of using illustrative materials in areas other than the commonly-accepted ones of social studies and science. Mathematics, clothing, education, art, literature and foreign languages can be enriched by the wise use of such aids.

SCHOOL JOURNEY

The Technique of the Field Trip—L. W. Kindred and O. W. Stephenson—*Social Education,* 5:21-5 Jan., 1941
(See ■7)

PERIODICALS

California Journal of Secondary Education—Symposium on Visual Aids. Vol. 16, Jan. 1941, 50c. Berkeley, Calif.

Visual Aids Digest—New Jersey Visual Education Association, 1940.
(See ■8)

PARAGRAPH COMMENTS

■1 Role of Visual Materials

Following are some beliefs or propositions which the author believes are important in considering as the basis for using visual materials:

1. The term 'visual education' or 'visual aids' if interpreted literally is a misnomer. We learn from many senses at all times, and not from one sense alone. The total nervous system responds to any given field of experience and the meaning of the object (or situation) is perceived in the light of the total situation.

2. A much larger proportion of school experiences than we may be willing to admit is barren, sterile and verbalistic. Verbalistic student recitations and explanations are used by a large proportion of teachers as the method of instruction. This results in barren, mechanistic and sterile treatment of factual information and a large amount of forgetting.

3. Teachers of the past were skilled in handling words. Teachers of the future must be skilled in handling experiences. Teachers now have more confidence in their ability to check on factual material obtained from reading and reciting than from their ability to evaluate other, more vital kinds of experiences.

4. Experiences are found at varying levels of generality and abstraction. The teacher must help children to have experiences in concrete forms in order that thinking and the use of language (both symbolic) may be meaningful.

5. Just as it is possible to move too quickly to generalization and abstraction, so too it is possible to stay too long at concrete levels. There is danger of living increasingly on a vicarious level, hearing radio speakers interpret situations, or seeing events through the eyes of the newsreel camera man. There is a satisfaction from first-hand experience beyond those achieved by vicarious ones. Illustrative of this are the comments made by children in answer to the question, "What is the loveliest thing you know, persons not counted?" 'The scrunch of dry leaves when you walk through them' and others.

■2 Visual Aids and Learning

A large part of our task as teachers (in the present crisis) is to give meanings to the symbols used in our "democratic frame of reference." It is imperative that full use be made of those audio-visual aids which may assist in bringing to the students the illusion of active participation. The scale of learning-experiences ranging from the most concrete to the most abstract (mathematical concepts) is then given, as described by I. Keith Tyler in a recent address.

■3 Program for California

The results of a survey made in 1938 show that teachers in large city districts most often have access to an abundance of visual materials and that those in small districts are unable in themselves to provide the chief essentials of such a program. There are three recommendations: (1) that a state director of visual instruction be created; (2) that county or regional libraries be set up for smaller school districts; (3) that more courses be available in more California colleges where teachers can be helped to improve their methods of use.

In an editorial note the author reports progress in each of these areas. One unfortunate event, however, appears to be the adverse ruling of the Los Angeles County district attorney in which the L. A. County Visual Library, the oldest and largest county department in California, was closed.

■4 Films as Curriculum Aid

The part that a supervisor (director of curriculum and instruction or visual education director) can play in helping teachers to improve their use of motion pictures. A conference with each teacher helps to clarify the purposes to be served by films and some of the experiences that must follow their use. The procedure would then be somewhat as follows:

First Miss Y and Miss Z analyze their classes; then they plan their area of instruction; they set up their objectives and think through the larger problems which are found in that area, also considering the major activities which would help solve or give improved insight into the problems. Next they think about the teaching tools available. They think of the various uses to which these tools could be put and the relative value of each in a given situation. The teachers make a trip to the Visual Education Department and look at prints, dioramas, exhibits, preview films, slides and still films. They make note of those aids that will arouse curiosity, raise questions and stimulate discussion; those that will give help in setting the problem clearly before the pupil; those that will serve as a source of information; those that will serve as a review. Those teachers no longer think of the quantity of material they are to use, but rather of the quality of use to be made of each bit of material selected.

■5 Visual Aids in Social Science

Suggested materials available for teaching a unit such as "The Development of Transportation and Communication in the U. S." Films, field trips, models, lantern slides, still films and other specific aids are mentioned. If the materials suggested are properly used, the teachers will find a greatly stimulated interest in further work on the part of the student.

■6 Pictures in Social Studies

Pictorial material that has particular value for social studies teaching includes cartoons, pictures of historic characters and events, social customs during different periods of history and contemporary life. Cartoons and pictures are available at low cost; photographs may be taken by the teacher or by students; filmslides and simple activities shown in motion pictures may similarly be made by the teacher.

Pictures, to be effective, must be presented at the right time. The same picture will often cause different classes to react in diverse ways. The length of time for showing pictures within the interest span of the group also differs. A simple procedure for showing pictures is to pass them around. If the teacher knows each picture thoroughly he can point out important aspects of the picture and direct discussion.

One way to present pictures is for the students to jot down the salient points. Or the teacher may put a few "springboard" questions on the board and let the class find the answer. If pictures have nothing worth recording or remembering they have no value. For further study, the pictures or cartoons might be placed on the bulletin-board.

A slide library may be organized in every school with the help of the camera club. Natural color may be photographed on 2x2 slides. Directions are given for equipment and techniques used in making copies of pictures or cartoons in color.

■7 Technique of Field Trip

The extent of the educational returns resulting from a field trip will depend upon four principal things: (1) the preliminary arrangements; (2) the care taken in the teacher-pupil planning; (3) the procedure during its progress; and (4) the activities which follow.

The article should be read in full for some helpful suggestions.

■8 Visual Aids Digest

In this latest bulletin from the active organization of New Jersey teachers, a genuine effort has been made to collect the varied experiences and judgments of teachers, supervisors and administrators regarding audio-visual aids. The result is helpful to those who view the work of the organization from the sidelines, and it is invaluable for those who participated in that it helped them to clarify their thinking. There are articles on the use of audio-visual aids in safety, for deaf children, in mathematics, English, consumer education, vocational education, social science and the like.

SOURCES OF MATERIALS

Pan-Americana—Visual and Teaching Aids on Spain, Spain in the United States, and Latin America. Compiled by Lili Heimers, Director, Visual Aids Service, State Teachers College, Upper Montclair, New Jersey, 1940. 29 pp. mimeo. 50 cents.

Lists sources of charts, exhibits, maps, films, pictures, slides, and publications which should contribute greatly to courses concerned with the cultures and civilizations of our Latin American neighbors. The purpose of the compilation is to implement such teaching. An Appendix gives some helpful hints on projects which may be carried out dealing with cookery, correspondence, field trips, and costume dolls.

Mathematics Films—E. H. C. Hildebrandt, State Teachers College, Upper Montclair, N. J.—*The Mathematics Teacher,* 34:26 Jan., 1941

In the introductory statement to the list of films related to the teaching of mathematics, the author urges that teachers make known their needs to producers and to the Committee on Visual Aids of the National Council of Teachers of Mathematics if a large number of films is ever to be made available.

Detailed information is given for films in geometry, advanced mathematics, industrial design, architecture, mathematics in nature, weights and measures, money, cooperatives, physics, engineering and the like. This list will meet a welcome response from mathematics teachers and directors of visual education everywhere.

Living Films: A Catalog of Documentary Films and Their Makers—Association of Documentary Film Producers, Inc., 56 West 45th Street, New York City. 1940. 57 pp. mimeo. 50 cents.

An interesting Who's Who of documentary films in America, recording the biographies and achievements of ninety-nine members of the Association, well-known names in fact films. 150 films are listed, alphabetically by title, with brief descriptions of contents, production credits, and complete information regarding distribution arrangements. A glance through the film titles reveals a wide range of subject matter, from observations of the first acts of an infant to studies in mural painting and instruction in aviation.

Current Releases of Non-Theatrical Films, published monthly by the Motion Picture Division of the Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce, is now issued as Part 8—Motion Pictures and Equipment—of the new "Industrial Reference Service."

It continues to report on educational film developments abroad, and to list new non-theatrical films in this country as they are released, with brief data on each. Part 8 can be obtained separately for $1.00 a year, or 10 cents a copy.

BOOK REVIEW

World-Wide Influence of the Cinema—John Eugene Harley, Chairman, Committee on International Relations, American Institute of Cinematography—University of Southern California Press, 1940. 320 p. $2.00

The title describes very aptly the contents of this very helpful volume. It is a source book in which the writings and speeches of various educators, film leaders, newspaper writers and diplomats have been assembled to document the argument that the motion picture has world-wide cultural influence. Dr. James T. Shotwell says of the book in the Introduction, "Professor Harley has brought into his survey a mass of detail that will be useful for reference long after the pictures themselves have ceased to exist."

Chapters one and two include ample evidence that American films have had a powerful influence on the thinking and behavior of people throughout the world. Especially pertinent are the pages devoted to the influence of the cinema during war-time, bringing us up to the March of Time's "Ramparts We Watch." In this chapter, too, we are given evidence of the devastating effect that war has had on American film distribution and on foreign film production.

Three chapters summarize the status of censorship in our own country and in most of the large nations around the world. A brief summary of official government censorship policy is given for each of the nations.

Other helpful listings include: a) a summary of international organizations interested in the cinema; b) unofficial organizations in the United States, such as the American Institute of Cinematography, the American Film Center and others; c) the status of educational films in the United States and abroad; d) international commerce in films; e) (appendix) a list of cultural, documentary and educational films and their sources; f) the M.P.P.D.A. code; the text of the Neely Bill against block-booking and blind selling and other pertinent information.

A great deal of research was necessary in the production of this book. It is inevitable that there should be some omission in so large an undertaking. It is to be regretted, for example, that no mention was made of the work done during the past twenty years by the Department of Visual Instruction of the N. E. A. especially since the Department in 1939 offered to cooperate with the State Department of the U. S. in any program of international relations in which motion pictures might play a part.

The section dealing with the status of educational films in our own country is so incomplete as to be misleading. However, since the book is mainly concerned with the commercial film output, this need not seriously affect its usefulness as a ready reference book on "Wide-World Influences of the Cinema." The literature on the educational film should more than make up for the inadequate treatment of that phase of the subject.

SCHOOL MADE MOTION PICTURES

By HARDY R. FINCH

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Member of the Committee on Standards for Motion Pictures of the National Council of Teachers of English

EVER SINCE the article on the Purdue University engineering films appeared in EDUCATIONAL SCREEN, a great deal of interest has been shown by educators in these unusual 16 mm. film productions. To show the range of these films in engineering it seems advisable to give further details in this department. The pictures are of three types: (1) silent pictures with titles; (2) sound pictures with sound track on film; and (3) silent pictures with a timed commentary to be read by the teacher at specified points during the showing. (All of the films are available for rental. Inquiries regarding this should be sent to Professor Justus Rising at Lafayette, Indiana). Length in feet is given after each title. Notable features of many of the subjects are (1) work sheets whereon students work pertinent problems at designated intervals in the picture, and (2) accompanying lantern slides for discussion and for showing correct solution projected on screen or blackboard.

Freehand Drafting (431) (Silent) Shows sketching as antecedent of drawing. Demonstrates sharpening of pencil, proper strokes for various lines; short and long horizontal, vertical and inclined; large and small circles and ellipses.

Ink Work and Tracing (436) (Silent) Demonstrates preparation of tracing cloth, filling and handling pen, drawing straight and curved lines and circles. Explains order of inking, lettering, erasing, and cleaning.

Orthographic Projection (663) (Silent) Demonstrates with models how to represent an object by three orthographic views. Use of scale, T-square and triangle for constructing the views, transferring a measurement from one view to another, or constructing the third view by projecting from the other two.

Shop Work (621) (Silent) Explains the function and operation of lathe, milling machine, drilling machine, shaper and planer, and arbor press. It demonstrates turning, facing, boring, drilling, reaming, chamfering, thread cutting, gauging, chucking, knurling, centering, necking, tapping, countersinking, counterboring, spot facing, surface milling, etc.

Structural Drawing (537) (Silent) Shows the preparation and use of the chisel pointed pencil for making pencil drawings on tracing paper for Blueprinting. The various steps of making a structural drawing are completed in order so that an efficient performance results. Reel 1—Layout of Roof Truss; Reel 2—Detailing a Gusset Plate.

Testing T-square and Triangles (303) (Silent) Shows how to check smoothness and straightness of T-square Blade and T-square Head, of edge of drawing board, of edges of triangles and angles of triangles—accurately without the use of auxiliary apparatus.

Use of T-square and Triangles (274) (Silent) Shows placing of drawing on drawing board, drawing horizontal, vertical and inclined lines with T-square and triangles. Explains drawing of perpendicular and parallel lines, and construction of angles by use of triangles.

Capital Letters (822) (Sound) Describes and demonstrates one at a time, the construction on ruled grids of single stroke inclined commercial gothic capital letters, ampersand and numerals.

Lower Case Letters (582) (Sound) Explains and demonstrates the construction of each of the 26 lower case letters.

Use of T-square and Triangles (304) (Sound) Sharpening of pencil and use of T-square and triangles, with a step-by-step explanation to show proper technique for drawing horizontal, vertical and inclined lines, both solid and dotted.

Auxiliary Views (449) (Silent with Commentary) Shows method for constructing auxiliary views for straight line and curved line figures by means of models.

Pictorial Drawing (450) (Silent with Commentary) Isometric and oblique drawing by means of mod-

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els and construction of objects with isometric and non-isometric lines and circles. Gives similar demonstration for oblique drawing.

Sectional Views (373) (Silent with Commentary) Illustrates principles of Sectioning by means of models and celluloid cutting planes. Full section, half section, and offset sections are shown.

Development of Surfaces (545) (Silent with Commentary) Explains the construction of the patterns of surfaces by means of models and drawings. Describes the methods for right prism and oblique prism, for right cylinders, for right pyramids, for right cone and oblique cone.

Intersection of Surfaces (255) (Silent with Commentary) This film explains by means of models and drawings the principles for finding the lines of intersection between intersecting surfaces. It discusses the problem of finding the intersection of two prisms, of two cylinders, of cylinder and cone.

Massachusetts

A film (400) dealing with the development of a unit of work in elementary school arithmetic at the Butler School, Belmont, has been made by Chester A. Robinson, visual education chairman. The film was used as part of a demonstration at the Boston University Conference on Elementary Education and was used later at meetings in Baltimore, Maryland.

Ohio

A 16mm silent motion picture is being produced by the Metallurgy Department of Ohio State University in cooperation with the Department of Photography and the Bureau of Educational Research. The film, which is being financed by the American Society for Metals, will be directed toward metallurgical students and similar groups. Animation and photography will be used to show changes which occur in metals under various conditions. The film will be completed in June.

All departments of the Celina High School are represented in a public relations film sponsored by D. W. Davis.

Wisconsin

A detailed account of the six-man football game compared with the eleven-man game, is presented in *Six Man Football*, a 400-foot film owned by Williams Bay High School. Charles A. Jahr was the cameraman, and Robert T. Cook the director of the film.

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Division of General Extension,
University System of Georgia, Atlanta

Food the Modern Way (ASFL) 11 minutes, 16mm sound, sale price $30.00; apply to distributor for rental sources and prices.

Produced by the Denver Public Schools under the sponsorship of the Motion Picture Project of the American Council on Education, this film presents information on the application of technology to the production and distribution of food. In the first sequence, the application of science and technology to agriculture is shown. The use of modern methods such as farm machinery, hothouses, and scientific animal and fowl breeding is explained. A sequence on factory processes is introduced by a title stating that laboratory testing and factory processes develop new products and new combinations of familiar products. Milk, coffee and wheat are shown being tested and sampled. In a large bakery, the steps from flour to bread are briefly traced. Then milk is followed through a dairy plant. An ice-cream pie is decorated by hand, and a machine cuts butter into cubes.

The next sequence depicts modern methods of preservation and packaging. Foods preserved through quick-freezing, drying, and canning are shown. Foods are displayed in cartons, paper, cellophane bags, and cans. Meat is preserved through smoking, and by being kept at low temperatures. The next sequence deals with transportation and refrigeration. The final sequence deals with wholesale warehouses and modern super markets. The functions of the wholesalers and retailers are explained, and the film closes with several views of tempting dishes as the commentator states that men and machines work together to bring us food the modern way.

COMMITTEE OPINION—A fair film for classes in economics, social science, home economics, and related fields, at the junior and senior high levels. The film is simple in style, and it is accurate as to details. Deficiencies noted were chiefly technical: the film was photographed and recorded on 16mm film, and photography is not up to standard. Editing and recording could be improved.

How Our Health Is Protected (ASFL) 25 minutes, 16mm sound, sale price $60.00; apply to distributor for rental sources and prices.

Produced by the Denver Public Schools under the sponsorship of the Motion Picture Project of the American Council on Education, this film describes some of the ways in which health is protected in a city. It begins with shots of public health workers in various activities as the commentator states that the film is dedicated to health workers.

The first sequence deals with water supply. Mountain water sources, purification plants, testing for purity, and important uses of water in the city are shown. The process of sewage disposal are explained briefly. The next sequence is introduced by a title, "Pure Foods." Protection of the milk supply is explained in detail. Production of bread, meat, and vegetables is next shown. The regulations which must be met by public eating places are described. In the next sequence generalized health activities are shown: street cleaners, garbage collectors, children's day nurseries, and Public Health Nurses. School health officials are shown at work. In the city's bureau of vital statistics, a clerk looks up a birth certificate. An ambulance rushes a girl to the hospital. A girls' physical education class takes corrective exercises and plays games. The transformation of unsightly sections of a city into well-kept modern communities, through the cooperation of city and federal governments, is explained. The commentator states that Denver's dry sunshiny climate has made it attractive to many people who are benefited by such conditions. The final sequence deals with the future of public health work. The research laboratory is shown as a fundamental activity. The importance of healthful living is emphasized, and the film closes with views of students studying together as the commentator summarizes the information gained by students in their study of the protection of health.

COMMITTEE OPINION—A fair film for classes at the junior high, senior high and college levels in health and hygiene, Civics and government, social science and related studies. The film is well organized, but it was suggested that it might have been improved by editing with a view to reducing its length. Since the film is more or less localized in the City of Denver, those who show it in other localities may find it advantageous to make note of this in an announcement prior to showing. The film was photographed and recorded on 16mm width stock; photography and recordings are fair.

It's Fun to Play (ASFL) 20 minutes, 16mm sound, sale price $60.00; apply to distributor for rental sources and prices.

Produced by the Denver Public Schols under the sponsorship of the American Council on Education. this film shows many different forms of recreation for school boys and girls, and suggests the value of healthful play for normal living. Mountain climbing, playing in the snow, parlor games, badminton, hobbies, swimming. recreational reading, dancing, visiting a museum, attending a football game, tobogganing, and skiing are shown. High-school boys and girls are seen in these activities throughout the film. There is a musical background with occasional comment by a narrator.

COMMITTEE OPINION—A fair film for classes at the junior and senior high levels in physical education, recreation, and allied studies. Also appropriate for P.T.A. groups and other general showings. Deficiencies noted are, in the main, technical ones; the photography (made on 16mm original) is below standard, and the organization of the film could be improved. Sound is fair.

Singing Wheels (AMA) 23 minutes, 16mm sound, "free." Apply to distributor for names of distributing libraries which circulate prints.

In this film, unusual photography and editing combine with dramatic narration to emphasize the role of motor trucks in our civilization. As the film opens, a great city is seen at sunrise. America is still asleep. But throughout the nation, the singing wheels of the transport trucks are turning to bring to the city materials to fill its infinitely varied needs.

In a series of brief closeups, truckmen speak their "language." A driver, then a group, sing a rolling song as many scenes of trucks at work follow in rapid succession on the screen. The vital part played by trucks in serving 48,000 towns and villages is emphasized in a dramatized sequence which demonstrates the chaos which might result if all the trucks suddenly disappeared. Next, the economic contributions of the trucking

This monthly page of reviews is conducted for the benefit of educational film producers and users alike. The comments of both are cordially invited.

Producers wishing to have their new films reviewed on this page should write Mr. Don White at 223 Walton Street, N. W., Atlanta, Georgia, giving details as to length, content, and basis of availability of the films. They will be informed of the first open screening date when the Teacher-Committee can view the films. The only cost to producers for the service is the cost of transporting the prints to and from Atlanta, which must be borne by the producers.

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industry: four million employees, one out of every eleven of the nation's pay checks, and use of raw materials and supplies from every state. Uses of trucks other than for transport are briefly mentioned.

The contributions of the trucking industry to our highway system are shown in the following sequence. Drawings compare the average amounts of yearly taxes paid by various classes of motor vehicles, ranging from private automobiles at $25 to trailer trucks at $832. It is stated that trucks pay 27% of all motor vehicle taxes, or enough to pay all highway maintenance costs plus one-fifth of all new highway construction. Next a typical truck driver is introduced; he answers an examiner's questions concerning various phases of his job and equipment. The importance of the trucking industry in national defense is explained as scenes of Army motorized units in action are shown.

COMMITTEE OPINION—A good film for classes in transportation and social science. Excellent cinematic techniques are used, and good information is presented; however, it was felt that the propaganda in the film is somewhat over-emphasized. The film is technically excellent in every way.

Fun in Food (Contemporary) 1 reel, 16mm Kodachrome sound. Distributed exclusively by Films, Incorporated, 330 West 42nd Street, New York City. Apply for rental rates.

This color film uses titles, photography, and narration to explain food constituents and their work in the human body. At the beginning, an expert on foods and diet, Frances Stern, is introduced. She talks about foods and food selection. A table setting is shown; then growing vegetables, as the narrator explains that proteins are needed for growth and repair in the body. Foods valuable as protein sources are shown. Then it is explained that carbohydrates and fats furnish the body's fuel; their sources are shown. Next calcium, builder of the body's foundations, with its sources, and food iron, for red blood. Here a chart indicates the circulatory system, drawing an analogy to irrigation systems used in agriculture. Finally, the vitamins and some of their sources are enumerated. Frances Stern concludes the film with brief summarizing remarks.

COMMITTEE OPINION—A good film for classes in health, home economics, science and guidance. Should have some uses in the higher elementary grades, major worth in junior and senior high, and some value in college classes. It is also suited for adult cooking schools, P.-T.A.'s and the like. Committee members were somewhat critical of the sound-effects used with the subtitles, and it was agreed that the film's title might better have been worded so as to indicate more accurately its content. The film makes good use of color; photography, titles and other technical qualities are well executed.

Sailplane (J. W. Love) 11 minutes, 16mm Kodachrome sound. Apply to producer for sources of prints, both rental and sale.

An unusually beautiful and well-made color film on the sport of gliding. The film opens with views of gulls in flight as the narrator tells of man's age-old dreams of birdlike flight and of the early gliders which led to the development of motorized airplanes. Then the development of motorized aircraft is pictured in a rapid succession of scenes.

But some men still dreamed of flying like the birds, without noisy and dirty motors. The realization of their dreams is to be found in the modern sailplanes. In a home workshop, some of the steps in the construction of a sailplane are shown. Then the narrator explains how sailplanes can fly without motor power. We see a sailplane being towed into the air by an automobile, and then the use of thermal and contour currents in keeping aloft is explained.

A sailplane is assembled preparatory to flight. After checking the controls and explaining their functions, the pilot gets in and is towed into the air by automobile. The camera flies

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with the plane as it rises high in the air. The pilot releases the tow rope and heads for the sea edge, where he locates a contour current rising over the seashore cliffs which enables him to cruise at leisure up and down the shore, out over the sea and over the land. The craft banks and turns, under perfect control of the pilot. Another sailplane, a two-seater, is encountered, and the two planes fly together for a short time. Finally, the pilot skillfully brings his plane in for a landing.

COMMITTEE OPINION—An excellent film for general showings and for flight training classes, boys' airplane clubs, and similar uses. Although the film is not of a specialized educational nature, it should be valuable for stimulating interest in general science, in physics, and transportation, as well as for exploratory classes at the beginning of units. Color, sound, and narration are excellent, and the fact that the camera was attached to the plane for the aerial scenes is an innovation which adds greatly to the interest, value and realism of the film by transmitting sensations similar to those actually encountered in flight to the persons viewing the film.

Producers Named Above

AMA. Automobile Manufacturer's Association, Transportation Building, Washington, D. C.

ASFL. Association of School Film Libraries, Inc., Room 819, No. 9 Rockefeller Plaza, New York, N. Y.

Contemporary. Contemporary Films, 49 Main St., San Francisco, California.

J. W. Love. Messrs. John W. Love and James H. Love, Chatsworth, California.

The Sound Film: A Challenge To Language Teachers

(*Concluded from page* 106)

background and must record the conversation which naturally results from the activity and background. This is very important and constitutes an essential departure from the technique of the travelog. The vocalization of the text in the film must be clear and slow but without destruction of the speech patterns. The films must be short enough so that their projection time does not exceed ten minutes each.

What will be the advantage of language films made in this way? Portraying, as they will, people in significant activities and speaking naturally, these films will have more dramatic appeal and, hence, greater interest for the student. The visual and auditory impressions will be integrated; the attention will not be divided between the picture and the language. Moreover, the gestures and facial expressions of the speakers and the other visual elements of the films will greatly help the student in understanding the language sounds.

How can these films be used to best advantage in the classroom? Certainly they should not be employed only occasionally, as a novelty to break the monotony of class routine. On the contrary, their use must be integrated with the regular classroom work, and the schedule should provide for one listening period a day. Since the films are short the student can listen to the same film several times during the class hour. This opportunity of listening repeatedly is very important, for the cumulative effect of repetition is a decisive factor in language learning.

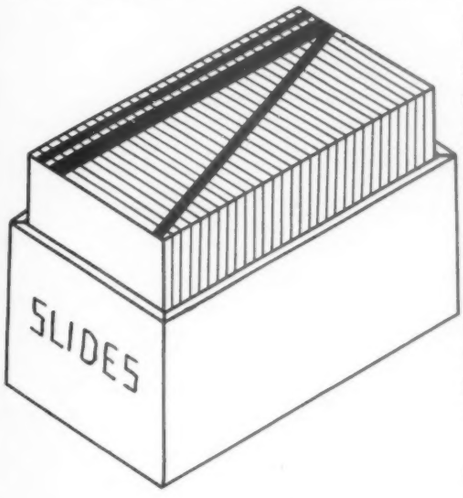
Note: As we go to press word comes from Garrison Films, New York City, of the production of five one-reel Spanish Language Teaching Films to be released some time in April, which may prove a prompt response to the author's ideas.—*Editor.*

Quick-Check Your Slide Sets

WILLIAM J. BECKER
Chairman, Visual Committee,
Ithaca, New York, Public Schools

IN MORE than one visual library, considerable time is spent rearranging slide sets after a "loan." Slides are frequently disarranged numerically, turned in the opposite direction, turned upside down, and, in a number of cases when two or more sets are loaned, some are returned in a different case from which it was sent.

The following described and illustrated device will simplify the checking of slide sets. It has been used for several years in the Ithaca Public Schools Visual Library with considerable success. As shown in the drawing, one or more lines are painted along the tops of the slide set, at least one parallel with the run of the box and one diagonal.



Depending upon the number of slide sets in the library, thousands of combinations are possible. Of course, no two sets will have the same combination to avoid slides from one box being mixed with slides from another. How can different combinations be secured?

1—By using varying numbers of lines. Start with two, one parallel and one diagonal. Later when color combinations have been exhausted go to three.

2—By painting lines different colors. Virtually thousands of combinations are possible by varying kind of color, order of color, tinting color. Do not use tints that are nearly alike because in the artificial light of many visual libraries, they will look alike. In addition, do not paint lines too close to the center because, in some combinations they will be in correct position even if reversed.

3—By varying width of bands and distance between.

4—By varying slope of diagonal. Even two diagonals can be used.

5—By varying the factors described in 1-4 in combination with the others.

Glancing at boxes of returned slides, we can now correct mistakes without taking out each slide. Slides reversed or put in the box upside down can be instantly spotted as well as slides from another box which will show as a different branding arrangement. The diagonal line will locate slides out of order and missing slides will cause a gap in the diagonal line.

Although it may take considerable time to mark an entire library of slides in the manner described, so much future time will be saved by this method that it is recommended for all visual libraries having slides.

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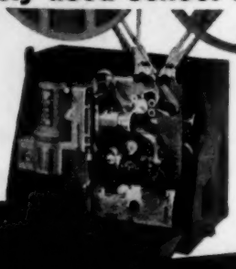

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News and

Third Annual Midwestern Forum on Visual Teaching Aids

The 1941 Midwestern Forum on Visual Teaching Aids will be held March 28-29 at the Congress Hotel in Chicago. Carefully planned classroom demonstrations, free discussions, and equipment displays will be features of the program, which follows:

FRIDAY, MARCH 28

9:30 A.M.—First General Session (Casino)

Purpose of the Forum
William C. Reavis, Chairman of Forum Committee, Department of Education, University of Chicago

Present Trends in Visual Education
Ford L. Lemler, University of Michigan

10:00 A.M.—First Meeting of Classroom Clinics

Elementary School Clinic (Casino)
Harry O. Gillet, Principal, University Elementary School, University of Chicago—Chairman
1. Elementary Science, Primary Division—Glen O. Blough Laboratory Schools, University of Chicago
2. Safety, Intermediate Division—Leslie W. Irwin, Laboratory Schools, University of Chicago

Secondary School Clinic (Florentine Room)
Ernest C. Waggoner, Public Schools, Elgin, Illinois—Chairman
High School Social Science—Introductory statement and presentation of demonstration class—Truman D. Fox, J. Sterling Morton High School, Cicero, Illinois

12:00—Luncheon and Round Table for Directors of Visual Education (South Grill)

Public School Directors, Joseph E. Dickman, Chairman, Director of Visual Education, Chicago

State Directors, J. E. Hansen, Chairman, University of Wisconsin

2:00 P.M.—Second Meeting of Classroom Clinics

Elementary School Clinic
Social Studies, 4th Grade: Introductory Statement—Eugene Humble; Demonstration—Margaret Scherer, Teachers, Oak Park Public Schools

Secondary School Clinic
High School Science Demonstration—G. I. Renner, Elgin High School

6:30 P.M.—Annual Banquet (Casino)

Speakers: David E. Walker, Sup't of School District 76, Evanston; Dean Gordon J. Laing, University of Chicago

SATURDAY, MARCH 29

9:30 A.M.—Final Session of Clinics

Elementary School Clinic
Social Studies, Intermediate Division—Mildred C. Letton and Ida B. DePencier, Teachers, Laboratory Schools, University of Chicago

Secondary School Clinic
Vocational Guidance High School Demonstration—Dr. E. G. Williamson, Department of Psychology, University of Minnesota

School Administrators Clinic (English Room)
William J. Hamilton, Chairman
The Use of Visual Materials in School Interpretation—Demonstration of films used and Evaluation by panel.

Michigan Visual Conferences

Two regional conferences on Visual Instruction were held last month in Michigan—at Wyandotte on February 17th, and at Fordson on the 20th—sponsored by

Notes

the Bureau of Visual Education of the University of Michigan. Mr. F. L. Lemler, in charge of the University Bureau, appeared on both programs. The meetings were designed to be informal discussions of the problems involved in the utilization and administration of visual aids, providing teachers with the opportunity to exchange ideas and ask questions.

Motion Picture Project Studies

The Committee on Motion Pictures in Education of the American Council on Education, 744 Jackson Place, Washington, D. C., announces the publication of a series of reports resulting from the Committee's three-year program of film evaluation. According to Charles F. Hoban, Jr., Director of the Motion Picture Project, "these publications have been designed primarily to be helpful to teachers and school administrators, in making available to them practical, objective reports on the selection, use, and evaluation of motion pictures, on methods of projecting, on the technique or making films in the school, on integrating school and community interests, and on underlying issues and problems."

The Studies now available are: *A School Uses Motion Pictures,* a report by the Staff of Tower Hill School; *Films on War and American Policy,* by Blake Cochran; *Projecting Motion Pictures in the Classroom,* by Francis W. Noel of Santa Barbara, California, Public Schools. Others to follow are: *Selection, Use and Evaluation of Motion Pictures,* and *Students Make Motion Pictures,* an account of film production by Denver schools.

Maine Cooperative Film Library

To meet the demand for educational films in Maine, the State University at Orono finds it necessary to expand its film library maintained to service the schools of the state, under the direction of Dean O. S. Lutes. The University proposes to acquire additional films by the cooperative plan in use in many school systems, colleges, and universities. With thirty schools subscribing to this plan, sixty sound films would be purchased on the basis of their frequency of choice by the participating schools. These schools then would have the use of two films each week during a period of thirty weeks each year at a cost of $100 over a two-year period.

Information Exchange Service

The U. S. Office of Education has announced the inauguration of an Information Exchange which will act as a clearing house for ideas and materials on education and national defense. Educators are urged to send to the Exchange material which they may have prepared recently in connection with the defense program. Such materials might include: organization plans, school and community programs related to defense activities; curricular modifications and classroom procedures found effective in building good citizenship, tolerance, etc.; photographs of such activities; visual aids, radio programs, etc., or descriptions of their use.

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material for circulation on a free loan basis, in the form of originals, reproductions, digests, bibliographies, etc. A well-annotated catalog describing the various kits, books or folders will be distributed. Communications should be addressed to: Information Exchange, U. S. Office of Education, Federal Security Agency, Washington, D. C.

Bureau of Mines Films Go to Latin America

The large film library of the Bureau of Mines has been made available for the advancement of cultural relations with Latin America, it was announced today by the Department of the Interior. Motion pictures dealing with a variety of technical subjects already have been shown in Mexico, Brazil, Argentina and Peru, and in the last named country a regular schedule of showings has been established. Similar service to other South American countries may be inaugurated later.

The Bureau of Mines film library contains some 3,000,000 feet of film dealing with more than 45 subjects, and new titles are being added almost monthly. The pictures depict mining operations and related manufacturing processes; they show where minerals are found and how they are extracted from the earth, manufactured or refined into useful everyday products, and in what ways they are utilized and conserved.

American Film Center Grant

The American Film Center, Rockefeller Plaza, New York City, has received an additional grant from the Rockefeller Foundation sufficient to continue its work until January, 1943. During its two years of activity, the Center has supervised the production of twenty-one films, with six more now in work. A new Division of Program and Exhibition will provide adult education organizations and community forums with educational film programs at low cost. A Division of Installation will assist in the establishment of film production and distribution facilities. A new Research Division will make a comprehensive study of the motion picture audience, and coordinate its work with similar researches in radio and print.

Jack Finds a Way

(*Continued from page* 105)

er-director of the film, and Frank F. Harman, supervisor of the Photography Club, was director of photography.

Both shooting and editing were simplified by the breaking down of the script into scenes and shots, each numbered. A small blackboard, chalked with the corresponding scene and shot number, was photographed on a few frames of film before each shot was made. When the film was ready for cutting, the editors simply put the numbers in their proper order and the film was correctly sequenced. Editing consisted of viewing the film carefully, eliminating irrelevant material, and cutting the scenes to their proper length to carry the action smoothly. In no case was film left in the final production unless it contributed to the effect planned. Of the nine hundred feet of unedited film returned from the laboratory six hundred fifty feet were used in the first rough cut. This was later

Data on Summer Courses Wanted

The Educational Screen is again gathering information on all summer courses in visual instruction, for publication in the April and May issues.

Any reader knowing of such courses to be given next summer is earnestly asked to send us names of the institutions—with or without further data, such as: title of course, name of instructor, dates of duration, credits, contents of course.

reduced to three hundred eighty-five feet. There were sixty feet of titles which were made commercially and did not figure in the original footage. A projector-editor which flashes a moving picture on a small screen helped greatly in editing the action shots.

When completed the film was taken to the Bureau of Educational Research where it will be stored with the other films in the project, and where copies can be obtained at any time. The film has already been used in a number of summer classes in visual education in the United States and Canada. It was viewed also by the Highway Education Board of Washington, D. C. A print has been made for the Dover High School and the film will be shown extensively in classes, to various civic organizations and to the public in general.

Although it is too early to predict the effect of this film in terms of safety behavior, it is possible to draw a number of conclusions from our experience in the making of this film.

(1) Students are enthusiastic about viewing the film. It has already served as a springboard to numerous excellent discussions of bicycle safety.

(2) If the principle of learning through responsible participation is sound, there should be important effects on the safety behavior of those actually participating in the making of the film. More than seventy bicycle riders over a period of several weeks rode their bicycles in the ways which they themselves had chosen as important to safety. They not only demonstrated safe riding but they dramatized the reasons why safe riding is important. Safety rules to these pupils are no abstract memorized list.

(3) Although it was not primarily intended as such, the film has been as much a public relations medium as a safety production. The entire school, the mayor, the fire department, the local hospital, and numerous other local businesses all worked closely together toward the common end of bicycle safety. This experience can hardly fail to bring about on the part of these agencies a more sympathetic feeling for the school and its goals. From the mayor down these participating groups expressed enthusiastic support for the project.

"Jack Finds A Way" was our first motion picture—our camera was rented, our equipment borrowed—but its success has already encouraged school officials to consider the purchase of our own equipment and the making of further films of this type.

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Words and Music (Gilbert & Sullivan Music)	$15.00
Elephant Boy	15.00
Pecks Bad Boy with the Circus	17.50
Ghost Goes West	15.00
Abraham Lincoln	15.00
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59 East Van Buren Street - Chicago, Ill.

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Our library of 16 mm. Sound and Silent Films contains a great number of subjects important to national defense training and preparedness.

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A new vocational training series of 16 mm. Silent Films produced under the direction of an accredited C.A.A. school. Subjects now available are:

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Projector and Operator Service available.

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Current Film News

■ EASTMAN KODAK COMPANY, Teaching Films Division, Rochester, New York, has produced three new silent reels on India, and a timely reel on aviation.

The Punjab presents rural life in this British state, methods of irrigation, a market town, native school, and various household tasks such as making unleavened bread, churning, washing and spinning. There are scenes also of Delhi, capital of British India—buildings, shops and characteristic street scenes.

Glimpses of Industry in Mysore and Ceylon features modern and primitive industries: new and old irrigation methods, gold mining, manufacture of chemicals, distillation of sandalwood oil, silk industry, tea growing, cocoanut and cinnamon harvesting and preparing for market. Views in the seaport of Colombo complete the reel.

Hyderabad contains a variety of subject matter—street activity in Hyderabad city, minting of coins and printing of postage stamps, cultivation of rice and sugar cane, rug weaving, weaving metallic fabrics, embroidery, silver work, and the educational system.

Principles of Flight illustrates the elementary principles of lift and flight, in a kite, glider, and an airplane. Animations and straight photography of laboratory apparatus and wind tunnels are used to show the effect on flight of velocity of air currents, angle of inclination of the wings, and streamlining. The standard controls of an airplane are demonstrated.

■ THE INTERNATIONAL FILM BUREAU, INC., 59 East Van Buren Street, Chicago, Illinois, announces a new department for the purpose of selling prints of documentary and educational films. During the four years since its establishment the International Film Bureau has built up a large library of foreign language and social science films. The first film to be announced by the new department is:

One-tenth of Our Nation—16mm sound, 26 min. running time—presenting the story of Negro education in the South from rural one-room schools to modern progressive universities.

The American Film Center called together a Committee of Experts to control the content and philosophy of the film. Dr. Claude A. Barnett, one of the Committee, states the purpose of the film: "We wanted to tell the people of the United States something about Negro schools and colleges. We wanted to show everything from the hungry boys and girls in overcrowded one-room schools to the proud graduates of our great universities. *One Tenth of Our Nation* tells the story in its economic and social setting and it's a success story of Negro and white cooperation even though there still remains plenty to do." The film was made possible by a grant of the General Education Board to The American Film Center. The Committee of Experts included Dr. Channing H. Tobias, Dr. F. D. Patterson, Dr. R. E. Clement, Dr. Arthur D. Wright, Dr. Charles S. Johnson, and Dr. Claude A. Barnett.

The film was produced by Film Associates, Inc., a new company of old experts. The film was photographed by Roger Barlow, Henwar Rodakiewicz, and Theodore Lawrence, all of whom worked on *The City* (Available from the International Film Bureau on a rental basis). *One-Tenth of Our Nation* was directed by Felix Greene. The commentary was written by Maurice Ellis and the music arranged by Roy Harris.

(The 35mm distribution of the picture is being handled by Miss Mary Warner, 45 West 45th Street, New York, N. Y.)

■ CASTLE FILMS, INC., 30 Rockefeller Plaza, New York City, has just released another notable subject in their war-on-film chronology for 16mm and 8mm projectors, showing history in the making. Title of this latest release is:

British-Greek Victories—a record of the crumbling of Il Duce's dream of a great empire on the Mediterranean and in the East. It records authentically the brave resistance and victory of Greek arms over the Fascists. For the first time in the Second World War, the advantage is seen to be on the side of the forces allied against the Axis Powers, realistic scenes of actual battle showing Italian defeats.

In as picturesque and polyglot an army as was ever assembled, tribesmen of the desert and of Ethiopian hills join forces with Sikhs, Arabs and Egyptians, with New Zealanders and Australians, with Free French troops, South Africans and Nigerians, with Britons, Spahis, Czechs and Poles to sweep the Fascists out of Egypt, and to drive them back more than half-way the width of Italy's Libya. It shows combat on the sea, in the air and by land forces of every description. Sidi Barrani is shown as it was re-captured by the British. The battle of Bardia is another dramatic episode. Italian and British men-of-war have it out on the Mediterranean, with flying forces entering the fray. Haile Selassie's strengthened Ethiopians join forces with South Africans to penetrate into Italian Somaliland as others race into Eritrea and down the Red Sea coast. A vast amphi-theatre of war, reaching a third of the globe's circumference.

An illustrated booklet has just been published by Castle Films, describing eleven motion pictures that are available to schools, colleges and clubs without charge. Besides telling the content of each picture, the book designates its length, running time and whether it is in sound or silent version or both. Suggestions are made also as to the suitability of the pictures for given groups and suggested uses to which they can be put in connection with classes on given subjects. The eleven pictures include: *Weather by Carrier,* believed to be the first movie on the general subject of air-conditioning: *Pleasure Time* and *Tobaccoland, U.S.A.,* shown together, the former taking an audience behind the scenes as Fred Waring makes up one of his radio programs, and the latter revealing life on a Southern farm together with collegiate life in Southern universities; *The Story of the Brush; Meat and Romance; Popular Sculpture;*

(*Continued on page* 134)

■ NON-THEATRICAL PICTURES CORPORATION, 165 West 46th Street, New York City, reports the following 16mm sound release, available on a rental basis from licensed libraries throughout the country, the addresses of which will be sent on request:

A scene from the film "With Words and Music."

With Words and Music—7 reels. The immortal Gilbert and Sullivan operettas have at last found their way to the screen and can now be seen and heard by 16mm audiences. Against the background of a modern story has been filmed selections of the most popular musical and lyrical numbers from The Mikado, Pirates of Penzance, Ruddigore and Patience. Featured in the cast are the well-known Gilbert and Sullivan artists: William Danforth, Frank Moulin, Vera Ross and Vivian Hart. Teacher's guide available.

Sand—Symbol of Optical Independence

BY itself, only a handful of sand—fine, pure, white crystals of quartz from a Pennsylvania hillside. But, blended with boron, sodium, barium, lead, phosphorus and other elements—fused and fined at white heat—cooled, sorted, annealed and selected—it becomes optical glass, one of the basic indispensable materials of national defense—and of modern civilization.

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Today, for binoculars and fire control equipment that are the eyes of the Army and Navy—for metallographic and spectrographic equipment that are the eyes of industrial research—for microscopes that are the eyes of all science—for spectacle lenses that are the eyes of the nation's citizens—America is completely independent of foreign supply.

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Sew Today the Modern Way; Citrus on Parade; On to Washington; The New Oregon Trail; The Story of Aviation.

■ Sixteen MM. Pictures, Inc., 1600 Broadway, New York City, has been newly organized to distribute educational and entertainment films. Two of its releases are:

Man of Aran—6 reels, 16mm. sound documentary feature filmed off the coast of Ireland on the Aran Isles by Robert Flaherty. This picture is an important contribution to the library of historical and geographical films.

Birthplace of America—1 reel, 16mm sound, narrated by James Cleminger, Pathe News commentator. Interesting and informative reel depicting English scenes, points of interest and birthplaces of America's great men and their ancestors. Personages include George Washington, Abraham Lincoln, Benjamin Franklin, the Pilgrim Fathers, John Cabot, William Penn, Lord Baltimore, John Harvard, William Brewster, William Bradford and John Robinson.

These films are being placed with the leading local rental libraries and interested users should inquire of Sixteen MM. Pictures, Inc., concerning the nearest source. Prints are also available on lease to circulating school film libraries. Mr. William E. Jordan, formerly Sales Promotion Manager of Films, Inc., has joined Sixteen MM. Pictures as General Manager.

■ Y.M.C.A. Motion Picture Bureau, 347 Madison Avenue, New York, is handling the recently released duPont motion picture:

A New World through Chemistry—2 reels, 16mm sound and color—depicting the contributions of the DuPont Company to "Better Things for Better Living through Chemistry." The film traces the evolution of nylon textile fiber, plastics, dyestuffs, and rayon from the laboratory through manufacturing processes into actual use as apparel, furniture, household and personal accessories.

■ Walter O. Gutlohn, Inc., 35 West 45th Street, New York City, have made available to schools thirty-eight new Universal entertainment features, in 16mm sound, among which are such outstanding pictures as:

East Side of Heaven, Family Next Door, First Love, Unexpected Father and *You Can't Cheat An Honest Man*, with stars including: Bing Crosby, Joan Blondell, Mischa Auer, Douglas Fairbanks, Jr., Hugh Herbert, Deanna Durbin, Adolph Menjou, W. C. Fields and Jackie Cooper.

With the approval of one picture, the school is automatically eligible for all the pictures.

Gutlohn has released also:

The Outsider—10 reels—film version of the noted stage hit. This stirring drama of faith and love has won the plaudits of critics and film committees throughout the nation. Mary Maguire and George Sanders are in the featured roles.

■ The Bray Pictures Corporation, 729 Seventh Avenue, New York City, has collaborated with the Franklin Institute of the State of Pennsylvania, Philadelphia, in the production of a timely film:

Youth Takes to Wings—60 min. running time—based on the Traveling Air Show of the Franklin Institute, and authorized by the Air Youth of America organization. The motion picture demonstrates the elements of aerodynamics, and the development of aircraft design from boomerang and balloon to bombers and clipper ships. Slow motion studies of birds show how they control their flight, suggesting the application of mechanics to flight. The science of flight is further illustrated in the assembling and flying of small model planes. There are shots of model plane meets where air-minded boys exhibit their models and test their skills. The accompanying sound commentary is given in simple layman's language.

■ Frith Films, Box 565, Hollywood, California, now have made fifteen films, the aim of which is to teach good social values, and appreciation of our government. Their two most recent pictures are:

Flags on Duty—1 reel, sound and color—particularly suitable for teaching Americanism. A brief historical introduction shows ten of the more important flags of the United States. Flags of all kinds are presented with an explanation of their messages and uses: national flags, harbor flags, danger flags, decorative, and flags of identification.

Builders of the Broad Highway—2 parts, 1 reel each, sound and color. The subject of this film is the workmen of our country. The first part shows the contribution of each man employed on a road building job—surveyor, dynamiter, welder, electrician, etc.—the work of the machines, and industrial dangers. The second part is devoted primarily to the portrayal of the work involved in building a highway bridge. Brilliant outdoor scenes in color, sound effects, and narration by Don McNamara enhance the appeal of these subjects.

Units of study are suggested for the films, and Study Guides are supplied with each.

■ Harmon Foundation, Inc., 140 Nassau Street, New York City, has released many new 16mm silent productions the past few months, among them the following:

On the Farm—2 1-reel units—a children's film made by Mr. and Mrs. Ray Garner, portraying activities of a typical day on a farm through the tasks of two small children cooperating in their parents' work.

Walk, Do Not Run—1 reel—a safety film made in cooperation with the Department of Public Schools of Providence, R. I. The film is concerned with need for fire drills and suggests procedure for actual school situations.

How to Use Filters; Lenses and Their Uses—1 reel each—two new additions to the series on "You Can Make Good Movies," photographed by Kenneth F. Space.

Youth Lends a Hand; Work and Contemplation—2 reels each—made in cooperation with the American Friends Service Committee. The former presents the operation of student work camps from the point of view of the student, and of the inhabitants of the area in which the camp is located. The second film is on lumber cooperatives, showing the way in which students contribute their labor.

■ Bell & Howell, Inc., 1801 Larchmont Avenue, Chicago, has brought to this country several films from the Religious Film Society and other British sources, including *O'er Hill and Dale, County of the White Rose, Old Sussex, Around Snowdonia*, and *Western Highlands*. From Australia, similar imports include:

Teddy Bears at Play—a five-minute musical novelty showing the playful antics of the Honey Bear.

Nation Builders—2 reels—international prize-winner in the documentary class, presenting the history of Australia.

The Filmsound Library is offering also the new series of handicraft films, made in schools in various parts of the country. The first two in the series are single-reel silent pictures, *Simple Wood Turning* and *Linoleum Block Printing*.

■ Eastin 16mm Pictures Co., Davenport, Iowa, has acquired exclusive rights to an educational feature film dealing with the founding of Texas, entitled:

Heroes of the Alamo—76 min., 16mm sound—depicting the stirring events leading to the Texas War of Independence. The story centers around the lives of Almerian and Anne Dickinson, young settlers, as they are affected by the great events of the times. Among the historical characters introduced are Stephen Austin, Sam Houston, General Santa Anna, Davy Crockett, William B. Travis and Jim Bowie.

(*Concluded on page* 138)

THE PUNJAB

Rural life in the British-administered state of the Punjab. Primitive methods of irrigation; a typical village courtyard where household tasks such as making unleavened bread, churning, preparing curry, washing, and spinning are being carried on. A trip to a market town. A native school in the open air. Delhi, capital of British India: government buildings, shops, and characteristic street scenes. 1 reel—**$24.**

India

3 new silent films, with photography directed by Lawrence Copley Thaw, on special assignment for Eastman Kodak Company

GLIMPSES OF INDUSTRY IN MYSORE AND CEYLON—Modern and primitive industries in the native state of Mysore and the island of Ceylon. Ancient and modern methods of irrigation; development of hydroelectric power and centralized heavy industry such as gold mining; manufacture of chemicals; distillation of sandalwood oil; the silk industry; tea; cocoanut, and cinnamon harvesting and preparation for marketing. The seaport of Colombo: important buildings, street scenes, shipping. 1 reel—**$24.**

HYDERABAD

The city of Hyderabad—street traffic and railway station scenes. The minting of state coins and the printing of postage stamps. Agriculture—the cultivation of rice and sugar cane; threshing pulse. Cottage industries such as rug weaving and the weaving of metallic fabrics; fine embroidery, silver filigree and inlay work. Action scenes showing educational work — a mosque school; activities in the secondary schools and in Osmania University. 1 reel—**$24.**

Write Eastman Kodak Company, Teaching Films Division, Rochester, N. Y.

Eastman Classroom Films

Among the Producers Where the commercial firms announce new products and developments of interest to the field.

Five Sound Kodascopes

Five new 16mm. sound projectors—priced from $295 to $520, and covering the widest possible range of school, industrial, and home needs—are announced by the Eastman Kodak Company, Rochester, N. Y. Similar to one another in exterior design, but differentiated in power output and other features, these Kodascopes offer a complete line from which to select a model that precisely fits existing projection requirements. Each projector is equipped with 2-inch f/1.6 lens but a choice of six lenses is available, in focal lengths of 1 to 4 inches. Available power output ranges from 10 watts up to 40 watts. All models accommodate 1600-foot reels, and are compactly designed for ready portability. Efficient, durable mechanism has been employed throughout. Special provision is made for smooth, unvarying movement of the film at the point where it is "scanned" for sound—an essential factor in obtaining the highest quality of sound reproduction—and either variable area or variable density sound films can be used with all models.

Lowest in price is the Model FS-10, which sells for $295 complete with 750-watt lamp, and all tubes. It has a rated output of ten watts, and operates only on A.C. The projector and speaker are built into one compact case which divides into two sections, one containing the 10-inch speaker, the other serving as a platform for the projector.

Sound Kodascope F operates on D.C. or A.C., and has a built-in motor generator to supply the right kind of current needed for the various electrical mechanisms, and a jack for microphone or phonograph pick-up. It comes in two cases, with brackets in the speaker case to hold a screen. Its price is $370.

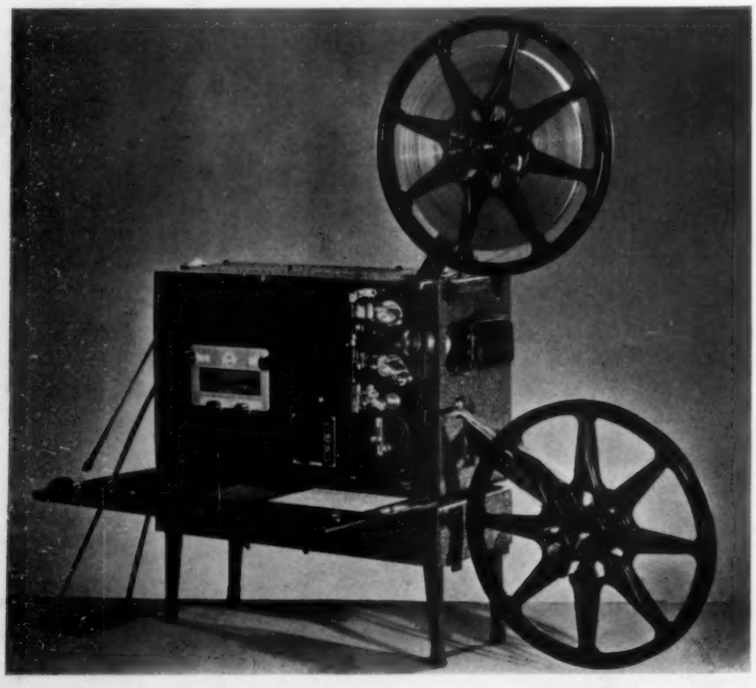
Model FB is similar to Model F, but mounted for projection in a sound-proofed "blimp case." Top of the case conceals 4-inch supporting legs for the projector. It sells for $400.

Kodascope FB-25 is available either with a single 12-inch speaker or with two speaker units, allowing the full rated capacity of 25 watts to be used. It has a sound-proofed blimp, and a jack for microphone or phonograph pick-up, which permits sound from either one to be mixed with sound from the film track. Prices are: with single speaker, $425; $450 for double.

Model FB-40 is almost identical in appearance with FB-25, but has a capacity of 40 watts, operates only on A.C., and is supplied with double speaker and separate jacks for microphone and phonograph pick-up. Priced at $520.

Filmstrips on Safety

Five new silent 35mm slide filmstrips, dealing with school safety, are offered for sale by National Safety Council Inc., 20 North Wacker Drive, Chicago. Titles are: *Play Safe, In Case of Fire, Safety on Two Wheels, Tom Joins the Safety Patrol,* and *Home Safety.* Designed to provide effective safety teaching aids, these five films have been carefully prepared from authoritative manuscripts.



Kodascope Model FB-25 equipped with supporting legs.

New Picture Unit on Americanism

Informative Classroom Picture Publishers, 48 N. Division Avenue, Grand Rapids, Michigan, have completed a new unit in their teaching picture series, *Americans All—The Builders of Our Nation* 1776-1941, consisting of 24 pictures — 8½x11 — with accompanying functional text. The set presents inspiring and vividly illustrated biographies of men and women who have helped build the nation — heroes of statesmanship, science, invention, exploration, medicine, art, music, industry, and other fields of service. They are not the only great men and women of America; but all have faced and overcome handicaps and won for themselves and for all of us some great victory. This unit is a timely contribution to the teaching of social studies and, particularly, of Americanism.

The text has been written by Marcillene Barnes who is a member of the Michigan State Curriculum Steering Committee, and by Barbara K. Anthony who is the Elementary Supervisor of the East Grand Rapids Schools. Many well known educators have participated in the planning of this new series which has been in preparation for nearly a year.

Developments at Bell & Howell

Bell & Howell announces that sound films now may be run on all new 16 mm. Filmo silent projectors. The sound, of course, will not be reproduced, but there is now open to owners of this popular projector a vast new field of entertainment and educational films. No longer need the owner of silent equipment be prevented from enjoying interesting and instructive films available only in sound versions. Also, the new Filmo silent projectors will eliminate the possibility of damaging the sound track should sound film erroneously be threaded on the silent projector.

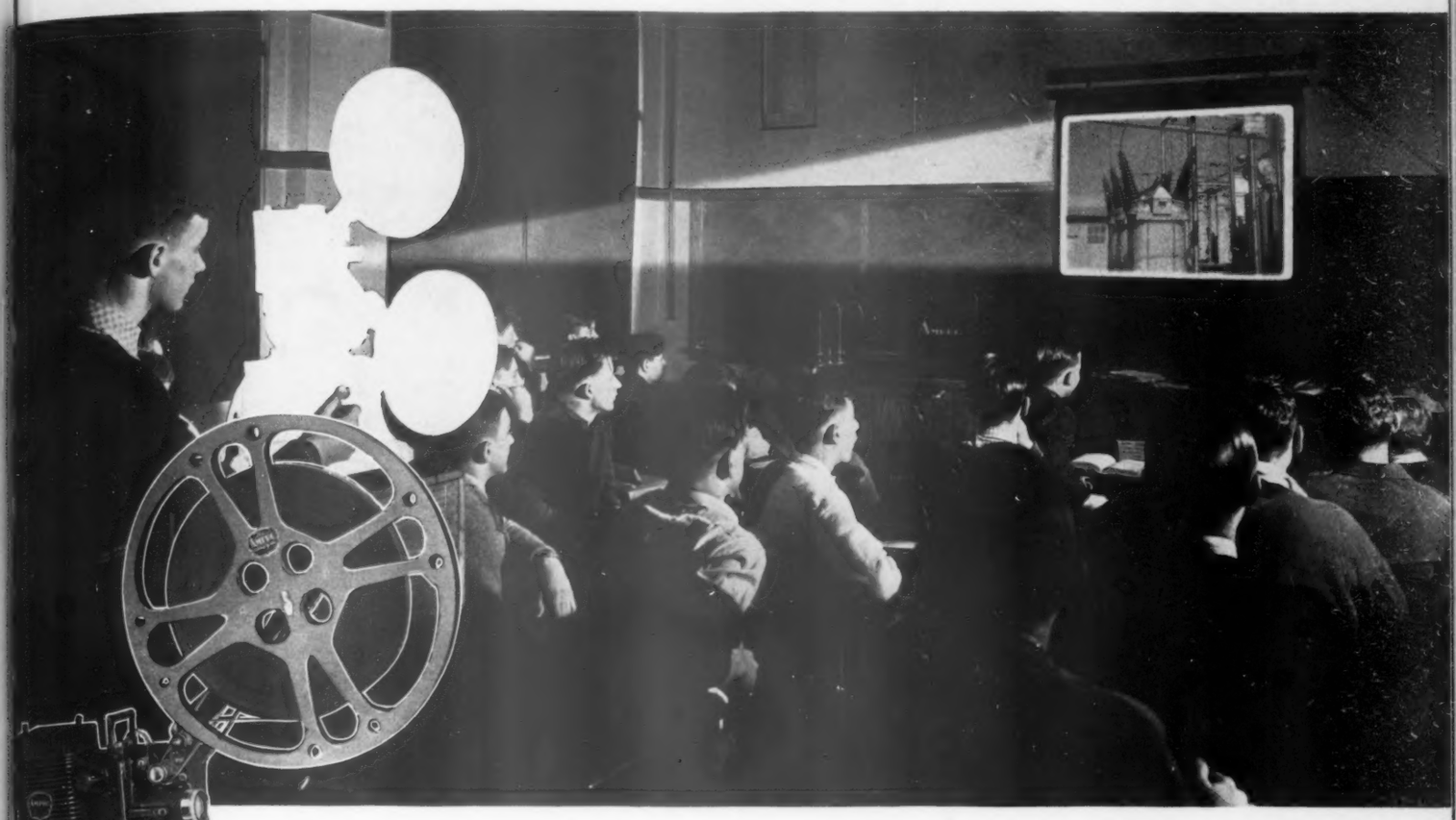
New Recreational and Educational Film Catalogs, listing and describing both sound and silent films, have just been released by the Filmosound Library.

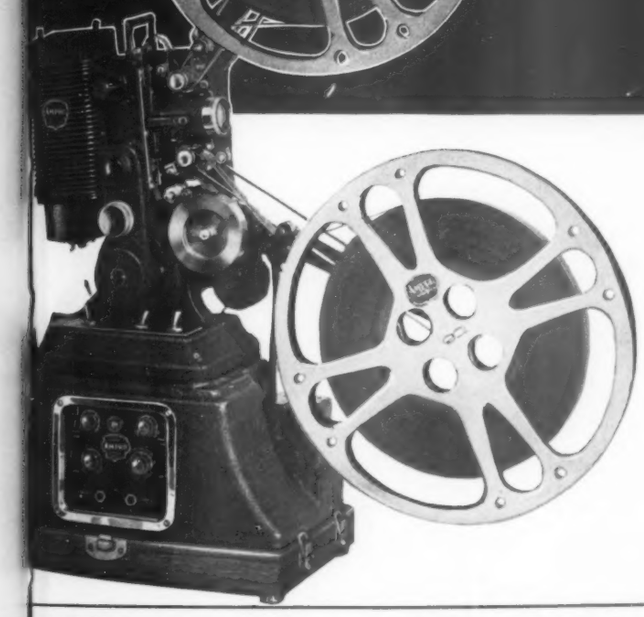
Rounding out the Filmo line of faster, fine quality, 16mm. projection lenses of the longer focal lengths, Bell & Howell introduces new "Incre-Lite" 2½-inch F 1.65 and 4-inch F 2.5 projection lenses, which are said to provide greater brilliance, maintaining the high optical quality for which the slower lenses were noted. The 2½-inch F 1.65 lens is priced at $30.00, while the 4-inch F 2.5 lens costs $17.50.

For further particulars write to the Bell & Howell Company, 1801 Larchmont Avenue, Chicago, Illinois.

(*Concluded on page* 138)

"Every School Can Now Afford Sound on Film Projection"

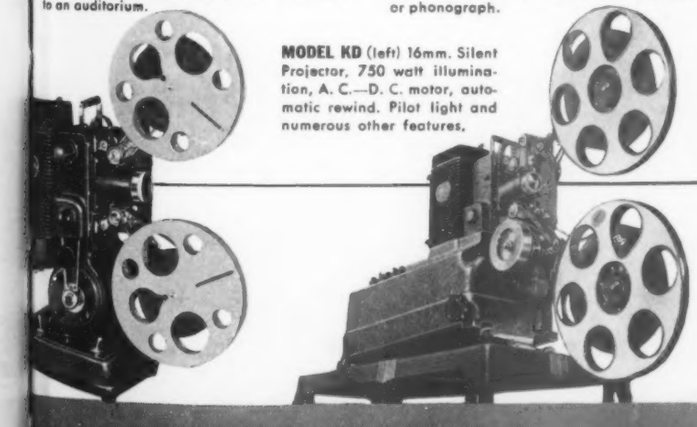




MODEL UA (above) 16mm. Sound-on-Film Projector—offering complete mixing of sound from film, microphone and phonograph—with ample volume for audiences ranging from a classroom to an auditorium.

MODEL YA (below) 16mm. Sound Projector, with 750-1000 watt illumination, A.C.—D.C. motor, silent and sound speeds, offering mixing of sound from film and microphone or phonograph.

MODEL KD (left) 16mm. Silent Projector, 750 watt illumination, A. C.—D. C. motor, automatic rewind. Pilot light and numerous other features.



Teach with Sound Films!

At many points in the educational program, motion pictures with sound possess definite proven advantages over other types of visual aids. With the many improvements in sound-on-film projectors — and the new lower price levels — all educators should once more check into the possibilities of utilizing fully this latest aid to effective teaching. Today, *every school*, regardless of size, location limitation of physical environment or finances, may now provide equal learning opportunities with the aid of Amprosound 16 mm. motion picture projectors. In collaboration with educational film libraries, a program may be planned which will make an outstanding contribution to any school and community. Ampro Educational Dealers are trained especially to provide service and information on all phases of Visual Education.

SEND FOR AMPRO CATALOG

giving full details, descriptions, prices, on the complete line of Ampro 16mm. projectors.

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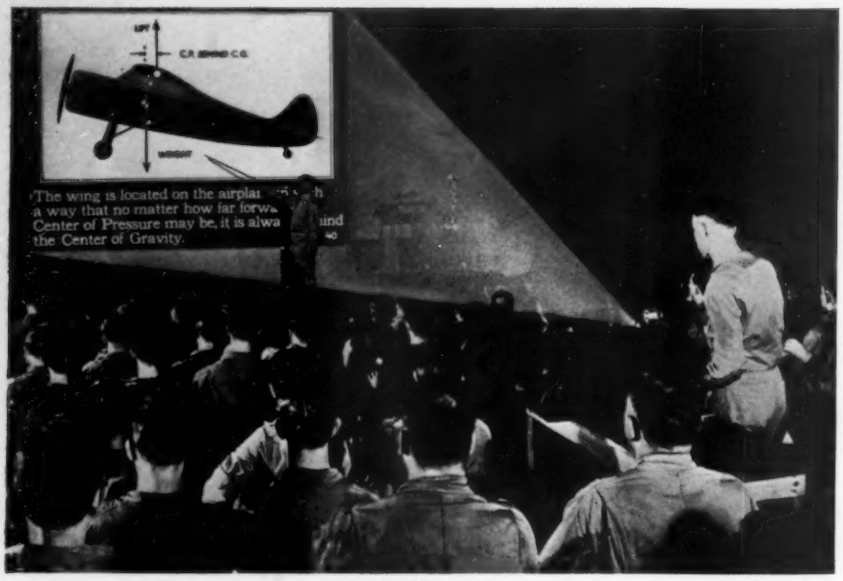
LIFT
CG
WEIGHT
The wing is located on the airplan
a way that no matter how far forwa
Center of Pressure may be, it is alwa
the Center of Gravity.

Showing the Pilot Training Course in operation.

Slidefilms for Pilot Training

A new visual course is helping to speed up ground school instruction of pilots in scores of pilot training centers throughout the country. It is the first step-by-step pictorial explanation that has been made of the subjects making up a ground school curriculum. In this new aviation course there are 24 slidefilms which tell the pilot what he needs to know about his airplane, the air in which he flies, and the ground over which he travels. It contains the bulk of the information concerning civil air regulations, navigation, and meteorology. Other subjects in the course, are aircraft engines, aerodynamics, instruments, and parachutes.

There are 1,724 pictures—diagrams, photographs, drawings, and charts—in the course. They give striking illustrations of traffic rules of the highway, portray weather in the making, show how lift is created, and how air flows over a wing. They clarify such problems as what is meant by power loading and wing loading, magnetic variation, the inner workings of flight instruments, the principles of carburetion and engine operation, and the new radio procedure at control airports.

The Pilot Training Course is already being widely used by universities, junior colleges, high schools, and by operators training non-college groups under the Civilian Pilot Training Program franchise. It is even being employed in some Canadian training centers.

The film course, which is the product of the Jam Handy Organization, 2821 E. Grand Blvd., Detroit, Michigan, is based on the official ground school material of the Civilian Pilot Training Program and checked and approved by the Civilian Pilot Training Service of the Civil Aeronautics Administration.

Current Film News

(*Concluded from page* 134)

■ Nu-Art Films, Inc., 145 West 45th Street, New York City have added a number of two-reel comedies and musicals to their releases, including *The Stupor-Visor,* with Jack Norton and Kitty McHugh; *Foolish Hearts* with Phyllis Brooks and Tony Martin; *Who's Looney Now,* with Billy Gilbert and Jack Norton; *A Wedtime Story* with Lew Fields and Frank Lyman.

■ Swedish Travel Information Bureau, 630 Fifth Avenue, New York City, have several 16mm educational films on Sweden which may be booked on payment of transportation charges and handling free of 75c per reel for sound films, or 50c for black-and-white silent subjects.

The sound films are provided with explanatory comments in English. Titles are *Child Welfare in Sweden, Physical Training in Sweden. Swedish Industries, Swedes at Work and Play, Scenic Sweden.* Three travelogues on Sweden are available in 16mm silent with English texts.

They also rent three films released by the Harmon Foundation: *The Land of Sweden, Consumers Cooperation,* and *Agricultural Cooperation.* These are two-reel subjects and are available in color as well as black-and-white.

■ Lester H. Kohs, 51 West Mosholu Parkway North, Bronx, New York, rents or sells two editions of a film on lithography, namely:

The Technique of Lithography — 2 reels, 16mm silent—dealing comprehensively with the production of a lithograph as a work of art, from the graining of the stone to the pulling of the final print.

Making a Lithograph—1 reel, 16mm silent—a concise edition of the above.

■ Garrison Films, Inc., 1600 Broadway, New York City, reports in production a series of five Spanish Language Teaching Films, 1 reel each, 16 mm sound, designed for classroom use in high schools, colleges and adult education groups. The first subject is titled:

This Spanish Speaking World, with contents described as background documentation concerning the Spanish language and culture. The remaining four subjects cover respectively Pronunciation, Vocabulary, Idioms and Conversation. It is expected that these films will be ready for release April 15, 1941.

Garrison also announces the availability in 16 mm sound of the following foreign language features:

Harvest—based on the novel by Jean Giono.

Maria Chapdelaine—from the story by Louis Hemon.

Heritage—from the drama by Feliu y Codina.

Le Bonheur — based on story by Henry Bernstein.

■ Norfolk and Western Railway Company, Roanoke, Virginia, is distributing free, through its Advertising Department, a new color motion picture, entitled:

The Power Behind the Nation — 16mm sound, running time 38 minutes—depicting the importance of the bituminous coal industry to the economic life of the nation. Scenes in full color picture the origin of coal, mining, processing, transportation, distribution, uses as a fuel and as the source of countless valuable by-products. Narration is by Bob Trout.

■ National Tuberculosis Association, 50 West 50th Street, New York City, has completed a dramatic film designed especially to show the relationship between rehabilitation and the rest of the tuberculosis program. It is available free through affiliated state and local associations.

They Do Come Back—16mm and 35 mm sound, running time 20 minutes—tells the story of a young couple who plan to marry but tuberculosis interrupts their plans and threatens their lives. The health facilities in their community go into action, Roy is restored to health and finds employment where his health will be safeguarded. The facilities for diagnosis, hospitalization and rehabilitation are vividly portrayed. Alois Havrilla is the narrator.

■ Weyerhaeuser Sales Company, Saint Paul, Minnesota, is preparing for free distribution a new 35mm technicolor and 16mm kodachrome sound production:

Trees and Homes—a sequel to **Trees and Men,** which has been in use since 1938. The new subject was filmed at the logging and mill operations of the Weyerhaeuser Timber Company at Longview, Washington. Producer of the film was James E. Fitzpatrick, well-known for his Traveltalks.

Also for the Visual Field –

"1000 AND ONE" FILM DIRECTORY

"1000 and ONE" The Blue Book of Non-Theatrical Films, published annually is famous in the field of visual instruction as the standard film reference source, indispensable to film users in the educational field. The new edition lists and describes over 5,000 films, classified into 155 different subject groups (including large group of entertainment subjects). A valuable feature is a complete alphabetical list of every film in the directory. Other information includes designation of whether a film is available in 16mm, or 35mm, silent or sound, number of reels and sources distributing the films, with range of prices charged.

132 pp. Paper. Price 75c. (25c to E. S. subscribers)

The FILM EVALUATION SUPPLEMENTS TO "1000 and ONE"

A new, unique, outstanding service to the teaching field—authoritative film evaluations in card-index format.

The first Supplement is ready—presenting, on 50 standard-size library cards, evaluations totalized from multiple judgments of the 50 films most widely used and scored—after actual class use—by the Judging Committee of 500 Teachers under the National Film Evaluation Project. Each succeeding Supplement will carry the next 50 films to attain their quota of Score Cards from the Committee.

Price per Supplement, with full explanations accompanying, 50 cents (postpaid if cash with order.) (Sold only to owners or purchasers of "1000 and ONE Films," 16th edition).

VISUALIZING THE CURRICULUM
By C. F. Hoban, C. F. Hoban, Jr., and S. B. Zisman.

Presents in theory and in practice the basic methodology of visual instruction in relation to classroom procedure. Throughout the text the theory of visual aids is applied to textbook illustration. "Visualizing the Curriculum", itself a splendidly "visualized text", provides an abundance of technical guidance in the form of illustrative drawings of photographs, reports of school journeys, suggestions for mounting materials, for making slides, film strips, etc. It incorporates up-to-date material, provides a fine balance in the treatment of various teaching aids, evaluates various types of aids, and defines the functions and values of each in the learning process.

320 pp. Cloth. Illus. Price **$2.75.** (20% discount to schools)

THE AUDIO-VISUAL HANDBOOK. (3rd Edition)
By Ellsworth C. Dent

Presents in convenient form, practical information for those interested in applying visual and audio-visual aids to instruction. The six chapters include discussions on "The Status of Visual Instruction," "Types of Visual Aids and Their Use," "Types of Audio-Visual Aids to Instruction," "Types of Sound Aids for Schools," "Organizing the Audio-Visual Service," "Source List of Materials and Equipment."

212 pp. Illus. Cloth. Price **$1.50.**

PICTURE VALUES IN EDUCATION
By Joseph J. Weber, Ph. D.

An important contribution to the literature of the visual field. Presents in unusually interesting form the results of extended investigations on the teaching values of the lantern slide and stereograph. 156 pp. Cloth. Illus. Price **$1.00**

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Full Proceedings of the Midwestern Forum on Visual Aids (Held in Chicago, May 1939)

The most complete record ever printed and on one of the livest visual meetings ever held. Numerous addresses by leading figures in the visual field, a notable Directors' Round Table and ***three complete recordings of classes taught by sound films*** are among the rich contents of the 80-page booklet.

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A full presentation of the latest piece of research on determination of teaching values of pictures. Development of the Score Card and elaborate experiment in use of same. Full documentation, tabulation of results, and appendices. **The** latest, most complete and scholarly investigation of a problem in the visual teaching field that has long needed such a solution. 48 pp. Paper. Illus. Price **50c.**

THE EDUCATIONAL TALKING PICTURE
By Frederick L. Devereux.

Presenting preliminary solutions of some of the more important problems encountered in adapting the talking picture to the service of education. The first six chapters deal with the development of fundamental bases of production, with the experimentation which has been conducted, and with suggested problems for future research. The remaining chapters discuss the effective use of the sound film in teaching.

220 pp. Cloth. Illus. Price **$2.00.** (20% discount to schools)

HOW TO USE THE EDUCATIONAL SOUND FILM
By M. R. Brunstetter, Ph. D.

Discusses the utilization of the educational sound film, and lists and illustrates techniques for placing the film into effective service in the classroom. The procedures suggested are based upon extended experience in studying teachers' use of sound films and in helping to organize programs of audio visual instruction in school systems. Two valuable Appendices and a full index.

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A report of the instructional use and indirect educational influence of motion pictures in this country, divided into nine units. Treats the motion picture (1) as an educational influence; (2) in service of health and social hygiene; (3) in governmental service and patriotism; (4) in vocational guidance; (5) in international understanding; (6) Motion picture legislation; (7) technique of production and distribution; (8) systematic introduction of films in teaching; (9) general educational problems of films in teaching.

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A Trade Directory for the Visual Field

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661 Bloomfield Ave., Bloomfield, N. J.
(See advertisement on page 129)

Bailey Film Service (3, 4)
1651 Cosmo St., Hollywood. Cal.

Bell & Howell Co. (3)
1815 Larchmont Ave., Chicago
(See advertisement on page 127)

Castle Films (3)
R C A Bldg., New York City
(See advertisement on page 101)

College Film Center (3, 5)
59 E. Van Buren St., Chicago.

DeVry School Films (3, 4)
1111 Armitage Ave., Chicago

Dudley Visual Education Service (1)
736 S. Wabash Ave., Chicago
4th Fl., Coughlan Bldg.
Mankato, Minn.

Eastman Kodak Co. (1)
Teaching Films Division,
Rochester, N. Y.
(See advertisement on page 135)

Eastman Kodak Stores, Inc. (3)
Kodascope Libraries
356 Madison Ave., New York City

Eastman Kodak Stores, Inc. (3)
1020 Chestnut St., Philadelphia, Pa.
606 Wood St., Pittsburgh, Pa.

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Films, Inc. (3)
330 W. 42nd St., New York City
64 E. Lake St., Chicago
314 S. W. Ninth Ave., Portland, Ore.
(See advertisement on page 125)

Garrison Films (3,6)
1600 Broadway, New York City
(See advertisement on page 130)

General Films, Ltd. (3, 6)
1924 Rose St., Regina, Sask.
156 King St., W. Toronto

Walter O. Gutlohn, Inc. (3)
35 W. 45th St., New York City
(See advertisement on page 131)

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Biological Laboratories,
Harvard University, Cambridge, Mass.

Health Film Service (3)
First Nat'l Bank Bldg., Salem, Ore.
(See advertisement on page 123)

Hoffberg Productions, Inc. (2, 5)
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28 E. Eighth St., Chicago, Ill.
(See advertisement on page 126)

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(See advertisement on page 131)

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216 E. 1st St., Wichita, Kan.
(See advertisement on page 123)

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1521 Dana Ave., Cincinnati, O.
(See advertisement on page 130)

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(See advertisement on page 129)

Sixteen MM Pictures, Inc.
1600 Broadway, New York City
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729 Seventh Ave., New York City

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228 Franklin St., Buffalo, N. Y.

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(See advertisement on page 123)

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19 S. LaSalle St., Chicago
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2839 N. Western Ave., Chicago
(See advertisement on page 137)

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1815 Larchmont Ave., Chicago
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(See advertisement on page 122)

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(See advertisement on page 126)

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(See advertisement on outside back cover)

Williams, Brown and Earle, Inc.
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Eastman Educational Slides
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Edited Pictures System, Inc.
330 W. 42nd St., New York City

Erker Bros. Optical Co.
610 Olive St., St. Louis, Mo.

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28 E. Eighth St., Chicago, Ill.
(See advertisement on page 126)

Keystone View Co.
Meadville, Pa.
(See advertisement on page 100)

Radio-Mat Slide Co., Inc.
1819 Broadway, New York City
(See advertisement on page 130)

Society for Visual Education, Inc.,
100 E. Ohio St., Chicago, Ill.
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Visual Education Service
131 Clarendon St., Boston, Mass.

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(1) indicates 16mm silent.
(2) indicates 16mm sound.
(3) indicates 16mm sound and silent.
(4) indicates 35mm silent.
(5) indicates 35mm sound.
(6) Indicates 35mm sound and silent.

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